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ABSTRACT

This document is one of a series describing the background, functions, and utilization of the Regional Information System (RIS), developed by the Michigan-Ohio Regional Educational Laboratory (MOREL). RIS, which was developed to improve the accessibility of information for the educational practitioner, is described in this handbook. The handbook is also designed to help others plan, develop, and operate information systems. Included in the handbook are: (1) an introduction to RIS; (2) a detailed description of the System's two components: the Resource Bank and the Referral Library; (3) information on installation activities; (4) discussions of staffing, facilities, costs, the timetable, and evaluation; and (5) a summary of the evolution of the System. Appendixes include: the Resource Bank coding scheme, the Association Referral Information Service (ARIS) coding scheme, a list of suggested materials for a basic referral library collection, a sample numeric subclassification system, keyword in Context (KWIC) listings, the MOREL search procedure form, a sample data sheet, and an annotated list of selected collections of materials in the MOREL Information Center's information file. (Author/JB)

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MOREL

REGIONAL INFORMATION SYSTEM for educators

Establishing the Information System:

An Operational Handbook

by Charles Kromer & James Doyle

MICHIGAN-OHIO
REGIONAL
EDUCATIONAL
LABORATORY

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LI001812

This document is one of a series describing the background, functions, and utilization of the Regional Information System (RIS) developed by the Michigan-Ohio Regional Educational Laboratory. The series includes:

- *Information Services — A Survey of the History and Present Status of the Field*
- *Establishing the Information System — An Operational Handbook*
- *A Searcher's Manual of Information Resources*
- *Installation and Evaluation of the RIS*

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July, 1969

Preface

Education has long been hampered by the apparent time lag between educational research and practice. One factor contributing to this situation is the problem of accessibility to needed information by the educational practitioner. The Michigan-Ohio Regional Educational Laboratory developed the Regional Information System (RIS) to help solve the accessibility problem.

This handbook is designed to help others plan, develop, and operate information systems. Program objectives and cost/effectiveness data are provided.

Decision-making requires information. The Regional Information System described here brings to educators varying kinds and amounts of information. Use of this information will aid in the solution of educational problems.

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1.

The Regional Information System

The MOREL Regional Information System (RIS) provides one answer to the information problem of educators. Teachers, administrators, and boards of education are continually seeking ways of improving educational practice in their school districts. An awareness of what others have tried and the opportunity to visit them would prove most helpful. The RIS serves to link educators with such resources. In addition, printed materials, project descriptions, and available consultants are identified and referred to those expressing an interest.

Two basic components make up the system: The Referral Library and the Resource Bank. The Referral Library houses a collection of abstracts, bibliographies, unique documents, and indexes, as well as publications of the regional educational laboratories and the research and development centers.

The Resource Bank identifies, classifies, and retrieves upon request meaningful referrals to programs, projects, and consultants. Emphasis is on operational programs which can serve as "on the spot" testimonials. The opportunity to communicate directly with those who have been responsible for initiating successful changes is one of the most significant contributions of the RIS.

Educators utilize the system by submitting a request for information — in person, or by telephone or mail. The question is analyzed and, if it is incomplete, unclear, or not sufficiently specific, the requester is contacted for further information. Once the exact nature of the inquiry is determined, appropriate alternatives are identified and sent to the requester.

It must be emphasized that the RIS is a referral information service in that it seeks to link educators with other educators, programs, or printed references. It does not provide copies of publications, books, etc., nor does it engage consultants or arrange visitations.

The diagram in Figure 1 illustrates the procedures followed in handling a typical inquiry.

Figure 1

PROCEDURES FOLLOWED IN HANDLING A TYPICAL INQUIRY

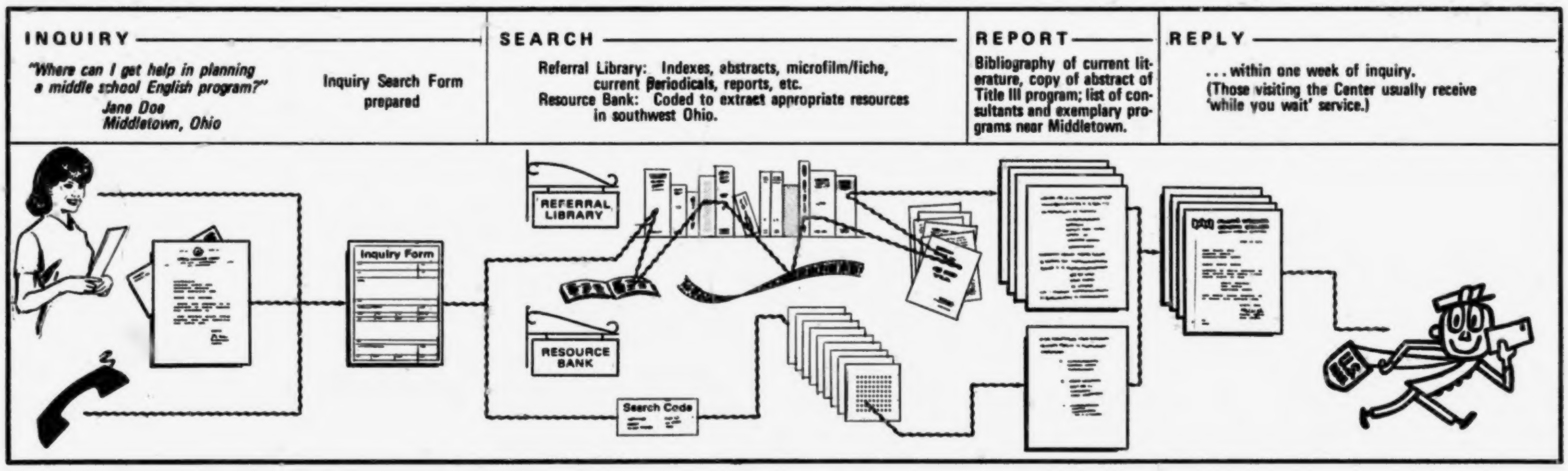
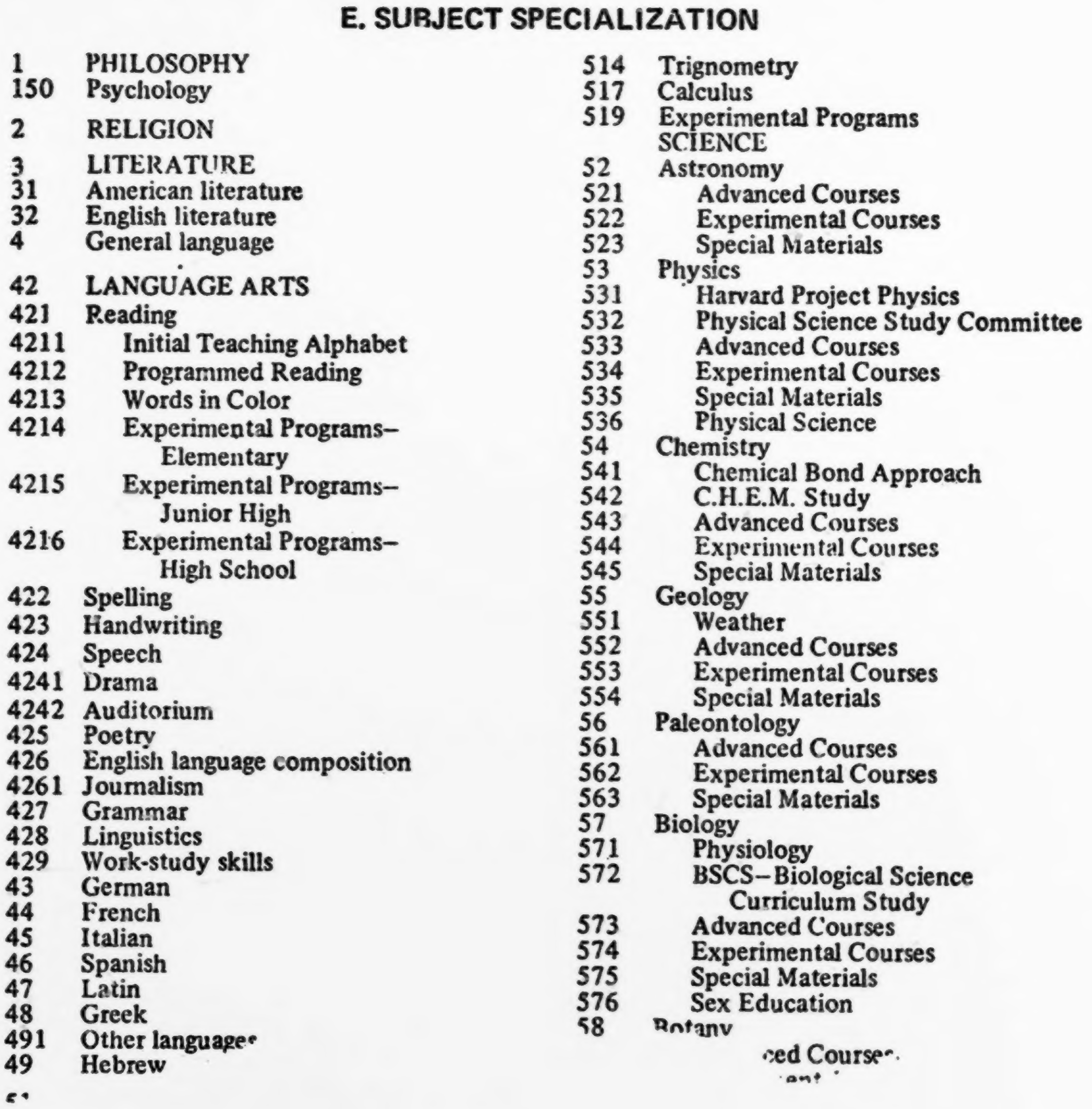

INQUIRY
"Where can I get help in planning a middle school English program?"
Jane Doe
Middletown, Ohio
Inquiry Search Form prepared
SEARCH
Referral Library: Indexes, abstracts, microfilm/fiche, current periodicals, reports, etc.
Resource Bank: Coded to extract appropriate resources in southwest Ohio.
REPORT
Bibliography of current literature, copy of abstract of Title III program; list of consultants and exemplary programs near Middletown.
REPLY
. . . within one week of inquiry.
(Those visiting the Center usually receive 'while you wait' service.)
Inquiry Form
REFERRAL LIBRARY
RESOURCE BANK
Search Code

Figure 2

RESOURCE BANK CODING SCHEME
(partial sample, for McBee)

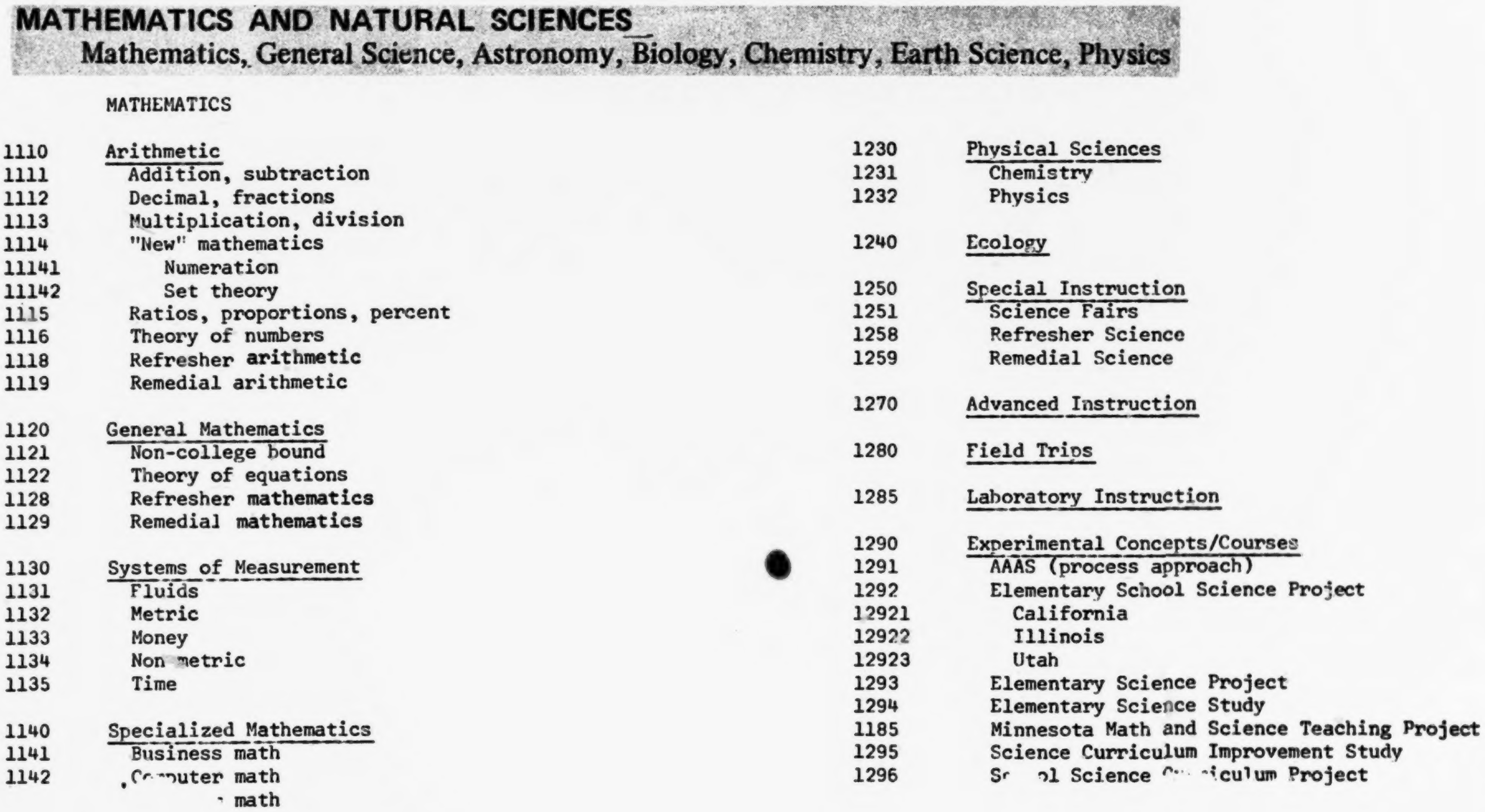


E. SUBJECT SPECIALIZATION

1	PHILOSOPHY
150	Psychology
2	RELIGION
3	LITERATURE
31	American literature
32	English literature
4	General language
42	LANGUAGE ARTS
421	Reading
4211	Initial Teaching Alphabet
4212	Programmed Reading
4213	Words in Color
4214	Experimental Programs–Elementary
4215	Experimental Programs–Junior High
4216	Experimental Programs–High School
422	Spelling
423	Handwriting
424	Speech
4241	Drama
4242	Auditorium
425	Poetry
426	English language composition
4261	Journalism
427	Grammar
428	Linguistics
429	Work-study skills
43	German
44	French
45	Italian
46	Spanish
47	Latin
48	Greek
491	Other languages
49	Hebrew
5	
514	Trignometry
517	Calculus
519	Experimental Programs
	SCIENCE
52	Astronomy
521	Advanced Courses
522	Experimental Courses
523	Special Materials
53	Physics
531	Harvard Project Physics
532	Physical Science Study Committee
533	Advanced Courses
534	Experimental Courses
535	Special Materials
536	Physical Science
54	Chemistry
541	Chemical Bond Approach
542	C.H.E.M. Study
543	Advanced Courses
544	Experimental Courses
545	Special Materials
55	Geology
551	Weather
552	Advanced Courses
553	Experimental Courses
554	Special Materials
56	Paleontology
561	Advanced Courses
562	Experimental Courses
563	Special Materials
57	Biology
571	Physiology
572	BSCS–Biological Science Curriculum Study
573	Advanced Courses
574	Experimental Courses
575	Special Materials
576	Sex Education
58	Botany
	ced Courses
	ent

Figure 3

RESOURCE BANK CODING SCHEME
(partial sample, for Access)



MATHEMATICS AND NATURAL SCIENCES

Mathematics, General Science, Astronomy, Biology, Chemistry, Earth Science, Physics

MATHEMATICS

1110	Arithmetic
1111	Addition, subtraction
1112	Decimal, fractions
1113	Multiplication, division
1114	"New" mathematics
11141	Numeration
11142	Set theory
1115	Ratios, proportions, percent
1116	Theory of numbers
1118	Refresher arithmetic
1119	Remedial arithmetic
1120	General Mathematics
1121	Non-college bound
1122	Theory of equations
1128	Refresher mathematics
1129	Remedial mathematics
1130	Systems of Measurement
1131	Fluids
1132	Metric
1133	Money
1134	Non-metric
1135	Time
1140	Specialized Mathematics
1141	Business math
1142	Computer math
	math
1230	Physical Sciences
1231	Chemistry
1232	Physics
1240	Ecology
1250	Special Instruction
1251	Science Fairs
1258	Refresher Science
1259	Remedial Science
1270	Advanced Instruction
1280	Field Trips
1285	Laboratory Instruction
1290	Experimental Concepts/Courses
1291	AAAS (process approach)
1292	Elementary School Science Project
12921	California
12922	Illinois
12923	Utah
1293	Elementary Science Project
1294	Elementary Science Study
1185	Minnesota Math and Science Teaching Project
1295	Science Curriculum Improvement Study
1296	School Science Curriculum Project

2.

Referral Phase Operation

Chapter 1 introduced the Regional Information System. This chapter describes in detail the operation of the System's two components: the Referral Library and the Resource Bank. Included are procedures for selecting and processing input, operation of the components, and handling requests.

These procedures relate to each component separately in addition to referring to common elements wherever appropriate. The organization of this chapter is intended to facilitate an understanding of the operational procedures of the System, allowing the reader to judge the merits of the System and, if appropriate, establish the System in terms of his specific need.

Resource Bank

Classification

The Resource Bank's design allows for the classifying, encoding, and retrieval of exemplary people, programs, and projects. Classification of each resource (input) is made possible through the utilization of a coding scheme. The coding scheme defines in specific terms (descriptors) the activities of individuals, projects, and programs expressed in terms of competencies. Essential categories include: position, methodology, location, type of institution, funding, special interest, and subject area. Figures 2 and 3 illustrate two codes developed thus far, each being appropriate to specific retrieval equipment. These coding schemes, presented in detail in Appendices A and B, were designed in conjunction with specific types of retrieval equipment.

Equipment

Two types of rather inexpensive retrieval equipment have been used thus far. A brief introduction to the McBee Keydex System (Figure 4) and the Access 60 System (Figure 5) follows.

McBee System

The *McBee System* utilizes the coding scheme detailed in Appendix A. The strength of this system is its ability to be flexible in handling a request. The simple matter of exchanging (manipulating) cards to refine or elaborate on a given area of a request provides for this flexibility. Equally important, however, is the time commitment necessary to drill (encode) the individual McBee cards. Greater flexibility necessitates more descriptors, hence more cards. The investment in equipment and related materials is approximately $2,000.

(McBee)

Access 60 System

The *Access 60 System* utilizes the coding scheme presented in Appendix B. This system incorporates the concept of computer-based number codes with magnetic selection and can serve as a transitional system while consideration is given to computerized systems. Another advantage of this system is the elimination of the drilling step in processing the identified resource. With this system, the data form itself serves as the encoded card. Flexibility in this system is largely limited to the nature of the coding scheme used to describe the activities of the resource. In addition to moderate materials cost, the operational expenses include a $75 monthly rental plus 2¢ for each search.

(Access 60)

Operation

Once a resource is identified, acquisition of essential data describing the activities or competencies is necessary to allow for the encoding and subsequent retrieval operations. The descriptions which follow indicate the forms and procedures necessary to classify, encode, and retrieve information.

McBee System

The *McBee System* utilizes the following forms:

- Coding Scheme (Figure 2 and Appendix A)
- Personnel Data Form (Figure 6)
- Program Data Form (Figure 7)
- Master Record Card (Figure 8)
- McBee Descriptor Card (Figure 9)

Access 60 System

The *Access 60 System* utilizes the following forms:

- Coding Scheme (Figure 3 and Appendix B)
- Personnel Data Card or Program Data Card (Figure 11)

Cover letters accompany these forms as illustrated in Appendix D.

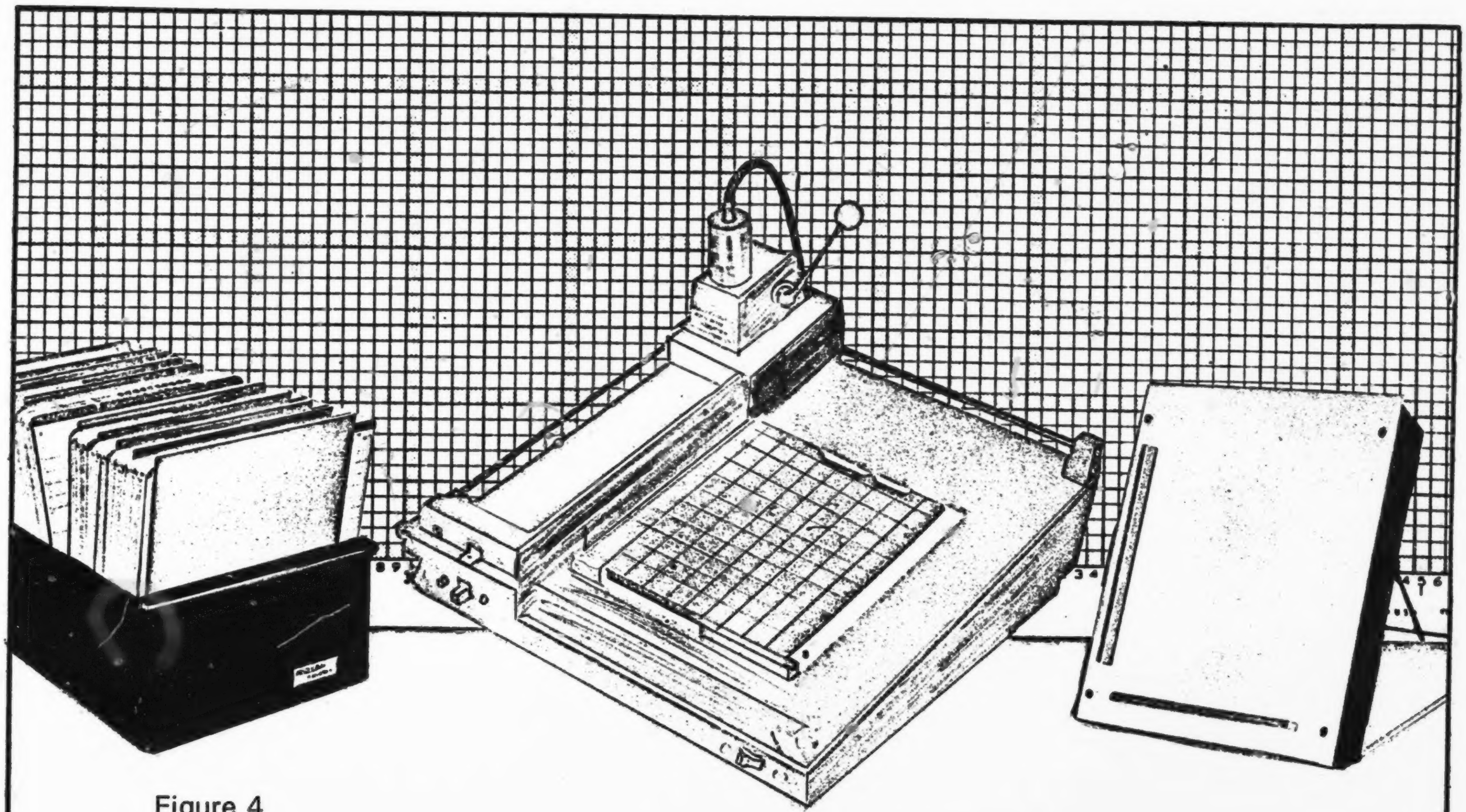


Figure 4

McBEE KEYDEX SYSTEM

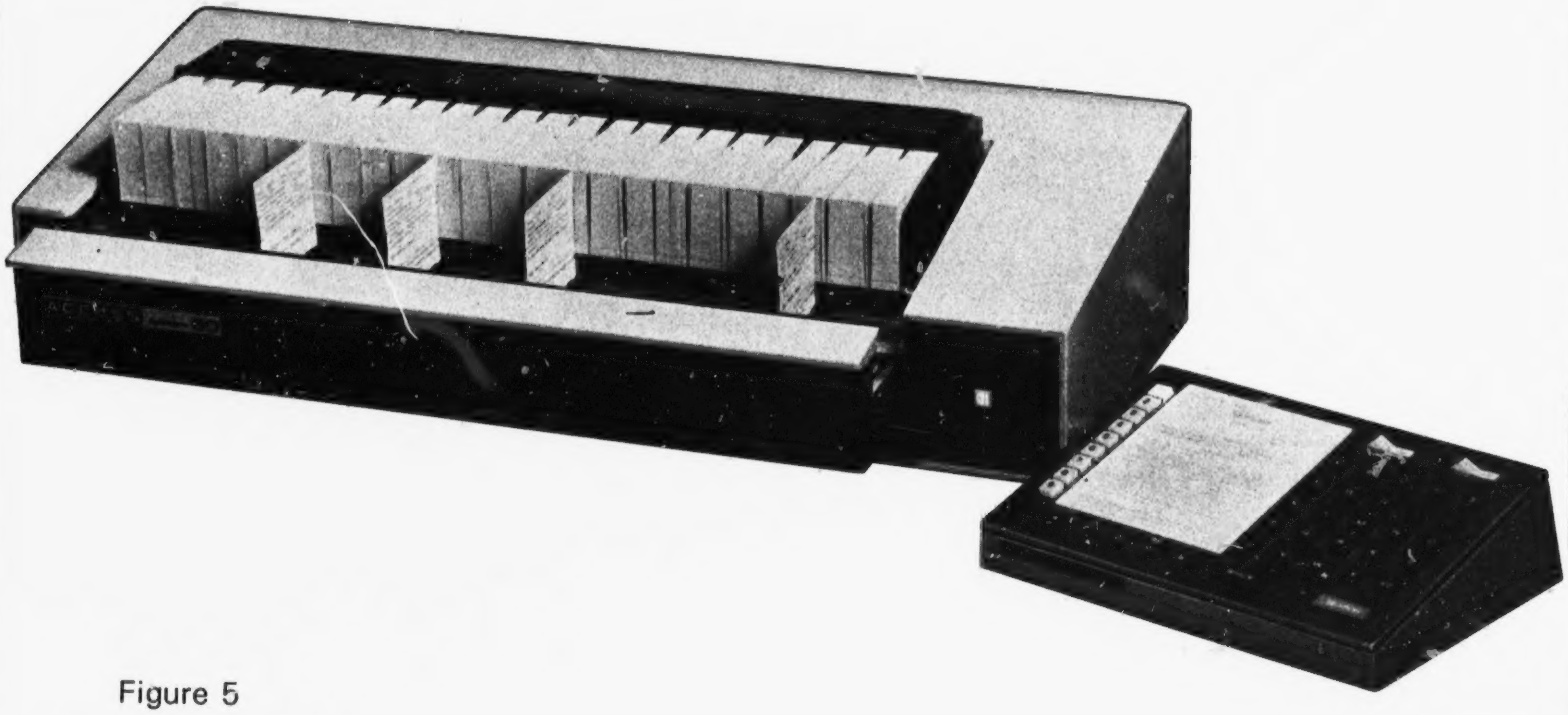


Figure 5

ACCESS 60 SYSTEM

(McBee)

These forms are color coded for ease of identification. Form cover letters accompany many of these forms and are illustrated in Appendix C.

To encode, identified resources are sent the personnel or program data form, coding scheme, and appropriate cover letter.

1. The completed data form is returned to the Information Center where information describing the resource is transferred to the master record card. At this point, the master record card, data form, and all supporting documents which may have accompanied the returned data form are assigned a four-digit accession number.

2. The data form and supporting documents are filed in chronological order by accession number.

3. The completed master record card is used to select the appropriate McBee descriptor cards.

4. These descriptor cards receive a single drilling at the matrix point representing the accession number (see Figure 9). The McBee cards and the master record card are then filed.

(Access 60)

To encode, identified resources receive a package containing the coding scheme booklet. The last page of this booklet represents the personnel or program data card. Directions for completion appear on the cover letter and first page of the coding scheme booklet.

1. The completed data card is returned to the Information Center where information describing the resource is transferred to a special card containing a magnetized edging.

2. At this point the data form completed by the resource and any supporting documents are filed according to the code descriptor title and number indicated on the data form.

3. The special card, now containing the description of the resource, is placed in the Access encoder and keynotched. Keynotching is the process of cutting the edge of the special data card in a manner that corresponds to the code number describing the resource.

4. The encoded data card is then randomly placed in the Access trays.

(McBee)

Service (handling a request) is performed by reversing portions of the above described process.

1. The request (inquiry) is analyzed, with the key descriptors identified from the coding scheme and noted on the inquiry form (see Figure 10).

2. This inquiry form is used to select the McBee descriptor cards previously drilled. This form is also used by the Referral Library to structure their search. By placing these McBee cards on the McBee light source, points of light emanating from the stack of cards (optical coincidence) represent resources significant to the request.

3. By reading the horizontal and vertical reference to the matrix point, the four-digit accession number is determined, identifying the specific resource.

4. The data form of the identified resource, located in the file by using the accession number, is copied and sent to the requester.

5. The descriptor and master record cards are then refiled.

(Access 60)

Service (handling a request) is performed by using the Access Console.

1. The request (inquiry) is analyzed to determine the key descriptor identified from the coding scheme and noted on the inquiry form. This form is also used by the Referral Library to structure their search.

2. The code number, corresponding to the key descriptor, is entered by using the keyboard of the Access Console.

3. By depressing the console search key, the selector withdraws the appropriate data cards which represent resources significant to the request.

4. The data cards representing the identified resources are copied and sent to the requester.

5. The data cards are then randomly replaced in the Access trays.

Referral Library

Classification

The Referral Library's design calls for the linking of a requester to a variety of printed resources allowing the requester a choice of alternatives. This service can function independently of or in conjunction with the Resource Bank previously described. Again it should be emphasized that the Reference Library, like the Resource Bank, refers sources of information, not actual documents.

As designed, the Referral Library is not a traditional library, but a bibliographic center. What is essential is the bibliographic and reference tools necessary to identify appropriate materials. These tools divide into several broad types, or physical formats:

BOOKS A basic collection of important books in the field of education for reference use.

BIBLIOGRAPHIES An extensive collection of both externally acquired and internally produced bibliographies.

REFERENCE A complete collection of general and specialized reference tools.

CATALOGS A basic collection of publisher, supply, college, and other catalogs for reference use.

SERVICES Subscriptions to the prominent commercial loose-leaf updating services and commercial newsletter services.

INDEXES A complete collection of periodical, serial, and book indexing and abstracting tools; as well as indexes to specialized collections.

ERIC A complete collection of Educational Resources Information Center microfiche and ERIC Clearinghouse publications, including appropriate indexes.

SPECIAL Unique collections of materials that could be of use to users, but which are unavailable elsewhere.

PERIODICALS A basic collection of education journals, magazines, and newsletters for reference use.

INFORMATION FILE An information file designed to give broad subject control to bibliographies, articles, papers, reports, abstracts, etc., that do not easily fit elsewhere.

A suggested list of specific titles illustrating these formats can be found in Appendix E. These titles, including approximate prices, are categorized into first and second priority items.

In organizing special collections of materials, the classification system should accomplish the following:

1. Arrange the materials in question by major physical formats meaningful to users
2. Be organized consistantly throughout for clarity
3. Leave room for expansion, both of numbers of formats (horizontally) and within formats (vertically)
4. Facilitate efficient and high quality retrieval of materials

Most traditional libraries classify materials by *Dewey Decimal Classification* and *Library of Congress* systems. These systems were designed to encompass all human knowledge and seem inappropriate for narrowly focused collections. Therefore, experience has shown that ease of storage is best accomplished by physical formats as the basic outline of a classification scheme. For example, books would be assigned the letter "A", bibliographies "B", etc. Within each format, a subclassification system must be used to insure each document a "unique address" in the collection. That is, no two individual titles should have exactly the same classification symbol (call number). Described below are two examples of subclassification systems that can be used within the major formats:

1. A numerical scheme adapted from the *Dewey Decimal Classification.*

   The desirable aspect of this subclassification scheme is arrangement by *subject* which allows browsing, as well as the capability of coordination with the Resource Bank coding scheme. Such a library collection should have a catalog for subject, author and title searching.

   For example, a reference book ("C") on child psychology (15) by Fritz Redl (R) entitled *Mental Hygiene in Education,* copy one, would be classified as follows: (See Appendix F)

   C 15 R c.1

2. An alphabetical scheme adapted from author and title.

   This scheme utilizes the first four letters of the author's last name (or the first important word in an organization's name) followed by the initials of the important words in the title. In this way, it eliminates referring to a subject list which was essential in the subclassification system mentioned above. Such a library collection should have a catalog for subject, author and title searching.

   Thus, the reference book by Fritz Redl mentioned above would be classified:

   C Redl MHT c.1

Organization

A basic consideration of classification schemes is ease of cataloging. Examples of two methods of cataloging are discussed here.

Due to the unusual and ephemeral nature of technical educational materials, pre-printed cards — a fixture of the traditional card catalog system — are rarely available. This results in the investment of considerable time and money in preparing these cards manually.

If computer facilities are available, a more economical and efficient method of cataloging is Keyword in Context (KWIC), which was developed to index a collection of technical literature "in depth" by alphabetically arranging all the descriptive "keywords" from the titles. This system works well with technical literature because it requires the presence of highly descriptive titles. The keywords (those indicative of the document's content) are used in place of the traditional card catalog subject headings. The computerized KWIC system is able to handle a large number of indexing terms per document in contrast to the laborious task of assigning headings in the traditional card catalog system. The computer repeats each title as many times as there are keywords in it, and "permutes" each entry so that all keywords appear in a column. The words in the title before and after each keyword also help the user to determine the context of the keyword. The computer also supplies author and classification symbol arranged lists resulting in a complete catalog with author, title, and subject control (see Appendix G). A major need of the KWIC index, like all book catalogs, is periodic updating. The computer, however, makes this task relatively easy. Thus, advantages of KWIC indexing are:

1. Indexing in depth by the use of keywords from the titles.
2. The presence of antecedent words before and after the keyword to make its meaning clear.
3. An end to time consuming preparation of catalog cards and subject classifying.
4. Control by author, subject, title, and shelf arrangement.
5. Relative ease of updating.

Thus, the design of the Referral Library, its systems of classification, types and amounts of materials, and updating procedures, affect the potential service capabilities in terms of comprehensiveness and quality. A library collection consisting of basic reference tools necessitates a strict referral service. However, an extensive collection of unique documents (i.e., unpublished reports, abstracts, internally produced bibliographies, etc.) readily available to the Referral Library, but not available elsewhere, can be utilized to expand the nature of the referral service. This expanded service would permit supplying copies of unique source documents.

Service

Critical to the successful processing of a request is the information specialist's knowledge of the Referral Library system and the tools and procedures it has evolved. To service the request, many activities are involved:

1. Examine the request and attempt to determine the user's exact needs from the information supplied.
2. If the request is unclear, it is desirable to "renegotiate" the request with the user.
3. Analyze the finalized request to identify the user's level of interest and the type of information appropriate to the identified need.
4. At this point, a description of the request (along with the name, address, telephone number, etc. of the user) should be recorded on the inquiry form. Space for noting work accomplished by the user, for results of the Library's search, and for the Resource Bank's search is desirable (see Figure 10).
5. Determine a strategy for conducting the search. Knowledge of the system will allow priority choices among information networks and centers and types of printed materials.
6. Based on the predetermined strategy, conduct the search of the Referral Library's materials identifying the resources relevant to the request.
7. After completing the search, indications of the resources identified are detailed on a "search procedure form" by check mark. For each check, a "data sheet" is supplied, explaining the types of and method for using the information (see Appendices H and I).
8. At this point, copies of documents, unique to the Referral Library, are identified and included with the previously identified materials.
9. A cover letter with the completed information package is mailed to the requester.
10. The completed inquiry form, a copy of the completed search procedure, and copies of correspondence to and from the requester are attached and filed chronologically for statistical purposes. Then, it would be desirable to file the inquiry forms by subject for consideration in handling similar requests.

A flow chart, illustrating the search procedures for the Resource Bank and Referral Library is found in Figure 12.

Figure 6

Michigan-Ohio Regional Educational Laboratory

RESOURCE BANK PERSONNEL DATA FORM

Please complete all relevant sections as completely as possible.
Additional pertinent information is solicited.

The items in bold face, marked with an asterisk (*), represent areas included in the Resource Bank Coding Scheme. Please refer to the enclosed scheme for suggested entries.

1. Name

2a. Job Title or Rank

***2b. Type of Position [Coding Scheme Section A]**

3. Primary Responsibility:

4. Organization or Institution:

Name *Phone*

Address:

No. & Street *City* *County* *State* *ZIP Code*

***5. Type of Organization [Coding Scheme Section B]:**

6. Degrees Held:

Degree	*Institution*	*Year*

Majors *Minors*

7. Predominant Previous Positions:

a. Position Location

Responsibility

b. Position Location

Responsibility

***8. Methodology Utilized [Coding Scheme Section C]** *If you list more than one method, please rank according to significance. If necessary, insert categories not appearing in the Coding Scheme. You may link combined areas (e.g., research-development) if they function as one in your situation.*

a. c.

b. d.

***9. Special Interest [Coding Scheme Section D]** *Please handle categories in the same manner as described in Question 8.*

a. c.

b. d.

***10. Subject Specialization [Coding Scheme Section E]** *Please handle categories in the same manner as described in Question 8.*

a. c.

b. d.

11. Professional Memberships (including offices held):

12. Publications (major):

13. Recent Projects:

a. Project Name ____________________

Field or Area ____________________ Date ____________________

*Funding ____________________ Location ____________________

b. Project Name ____________________

Field or Area ____________________ Date ____________________

*Funding ____________________ Location ____________________

14. Recent Consulting Activities:

a. Project and/or Institution ____________________

Specific Field or Area ____________________ Date ____________________

Person Responsible to ____________________ Location ____________________

b. Project and/or Institution ____________________

Specific Field or Area ____________________ Date ____________________

Person Responsible to ____________________ Location ____________________

15. Availability as a Consultant:

Limitations *(subjects, geographic areas, etc.)* ____________________

____

____

Requested honorarium: $________ per day.

16. Please list other persons you would recommend for inclusion in the MOREL Resource Bank:

Person or Program	*Address*	*Interest Area*

* * *

NOTE: Supporting documents or additional explanatory information would be appreciated. Attach sheets to this form if you wish.

I hereby authorize the Michigan-Ohio Regional Educational Laboratory to release the above information to authorized individuals and agencies under the general policies of the MOREL Resource Bank.

Signature ____________________ *Date* ____________________

Figure 7

Michigan-Ohio Regional Educational Laboratory

RESOURCE BANK PROJECT AND AGENCY DATA FORM

Please complete all of the relevant sections as completely as possible.
Additional pertinent information is solicited.

The items in bold face, marked with an asterisk (*), represent areas included in the Resource Bank Coding Scheme. Please refer to this scheme for suggested entries. *Please print or type.*

1. Name of Project or Agency ____
2. Parent Organization ____

***3. Type of Organization [Coding Scheme Section B]:** ____

4. Location ____
No. & Street *City* *State* *ZIP Code* *Telephone No.*

5. Chief Officer ____
Name *Title*
Contact Person ____
Name

6. Brief Description of Major Activities and Services ____

7. Duration of Project ____
8. Legal Structure ____

NOTE LIST YOUR COMPETENCIES ONLY

***9. Methodology Utilized [Coding Scheme Section C]** *If more than one method is listed, please rank according to significance. If there is a need, insert categories not in the Coding Scheme. You may link combined areas, e.g. research-development, if they function as one in your situation.*
a. ____ c. ____
b. ____ d. ____

***10. Special Interest [Coding Scheme Section D]** *Please use the same technique to handle categories as in no. 9.*
a. ____ c. ____
b. ____ d. ____

***11. Subject Specialization [Coding Scheme Section E]** *Please use the same technique to handle categories as in no. 9.*
a. ____ c. ____
b. ____ d. ____

12. Project Publications (reports, surveys, etc.) Please include copies if available.
title *date*
title *date*
title *date*

13. Instruments Used:
title *source*
title *source*

14. Please indicate the extent of your organization's interest in education:
Only Interest ____ Very High Interest ____ High Interest ____
Medium Interest ____ Occasional Interest ____ No Interest ____

15. Please list any other agencies or individuals that you would recommend for inclusion in the MOREL Resource Bank:
Person or Agency — and Location *Interest Area*

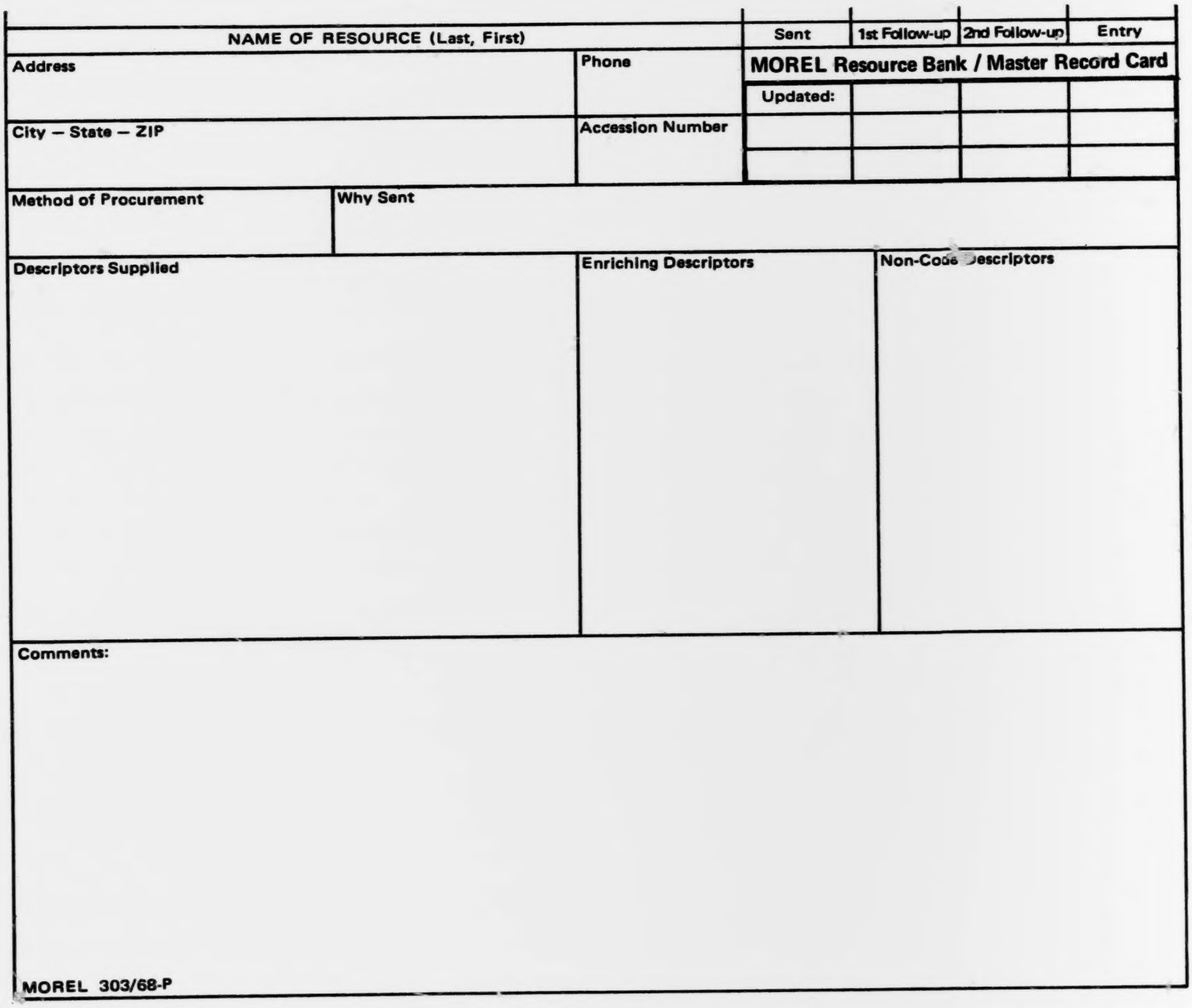
***16. Funding [Coding Scheme Section F]**
source *duration* *amount*

NOTE: Supporting documents or additional explanatory information would be appreciated. Attach sheets to this form if you wish.

Signature ____ *Date* ____

Figure 8

MASTER RECORD CARD



NAME OF RESOURCE (Last, First)

Sent	1st Follow-up	2nd Follow-up	Entry

MOREL Resource Bank / Master Record Card

Updated:			

Address

Phone

City – State – ZIP

Accession Number

Method of Procurement

Why Sent

Descriptors Supplied

Enriching Descriptors

Non-Code Descriptors

Comments:

MOREL 303/68-P

Figure 9

McBEE DESCRIPTOR CARD

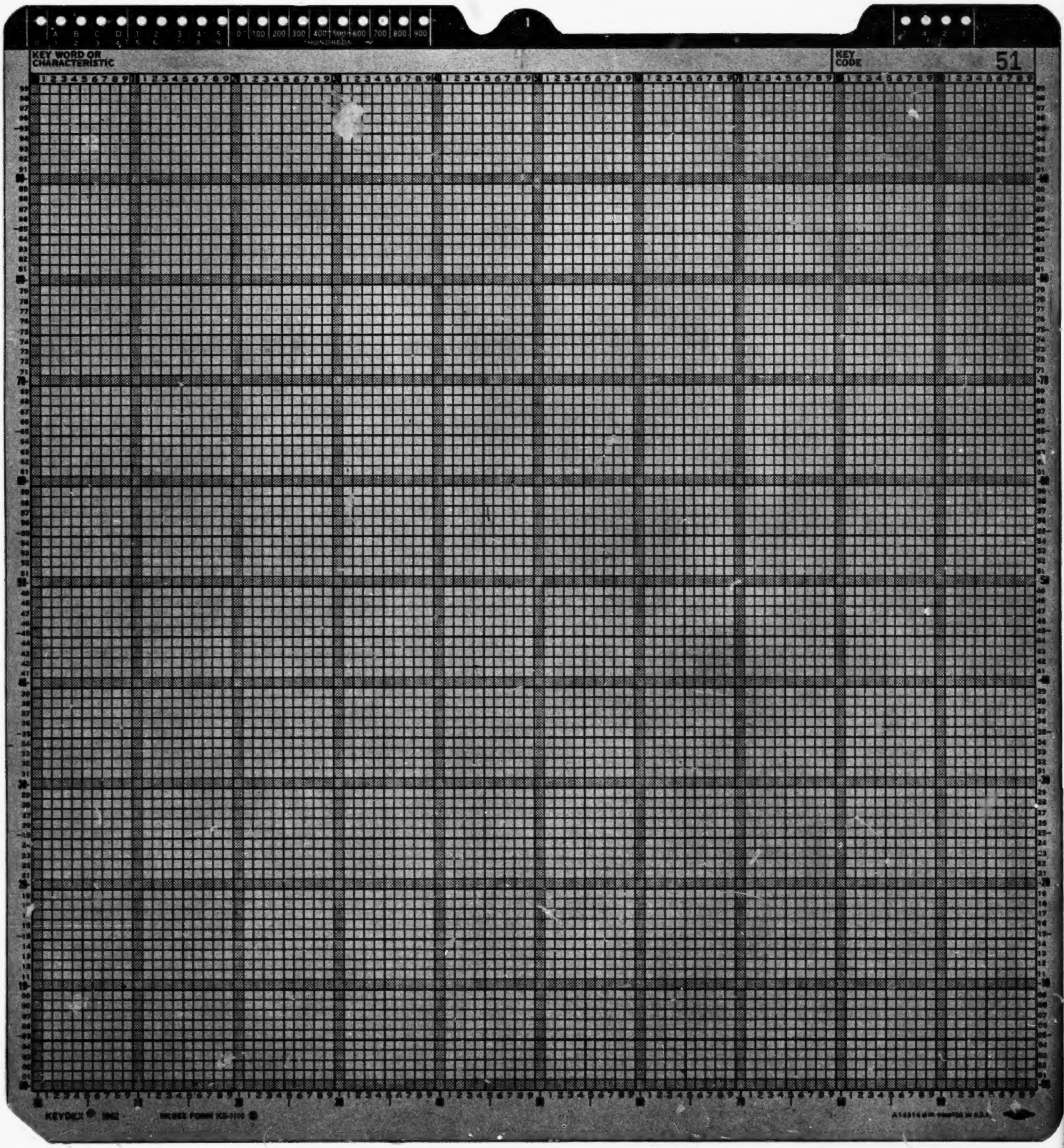

KEY WORD OR CHARACTERISTIC
KEY CODE
51
KEYDEX

Figure 10

MICHIGAN-OHIO REGIONAL EDUCATIONAL LABORATORY
3750 Woodward Avenue Detroit, Michigan 48201

Information Center
INQUIRY FORM

Name

Date

Title or Position

Phone

Agency

Address

EXTERNAL:
[ ] Present at Information Center
[ ] Telephone request [ ] Mail
INTERNAL:
[ ]

Person Taking Request

INQUIRY

Work Already Accomplished on Inquiry

[ ] REFERENCE LIBRARY

Associated Descriptive Terms

[ ] GENERAL - MOREL

[ ] Add to mailing list
[ ] Send general information
[ ] Other:

[ ] RESOURCE BANK
Type of Resource:
[ ] Personnel
[ ] Project
[ ] Agency

NOTE: Please see MOREL Resource Bank Coding Scheme for detailed inclusions under the categories indicated.

Nature of Funding

Type of Organization

Methodology Used by Resource

Location

Special Interest Area(s)

Position

Subject Specialization

RESULTS OF INQUIRY

Searcher

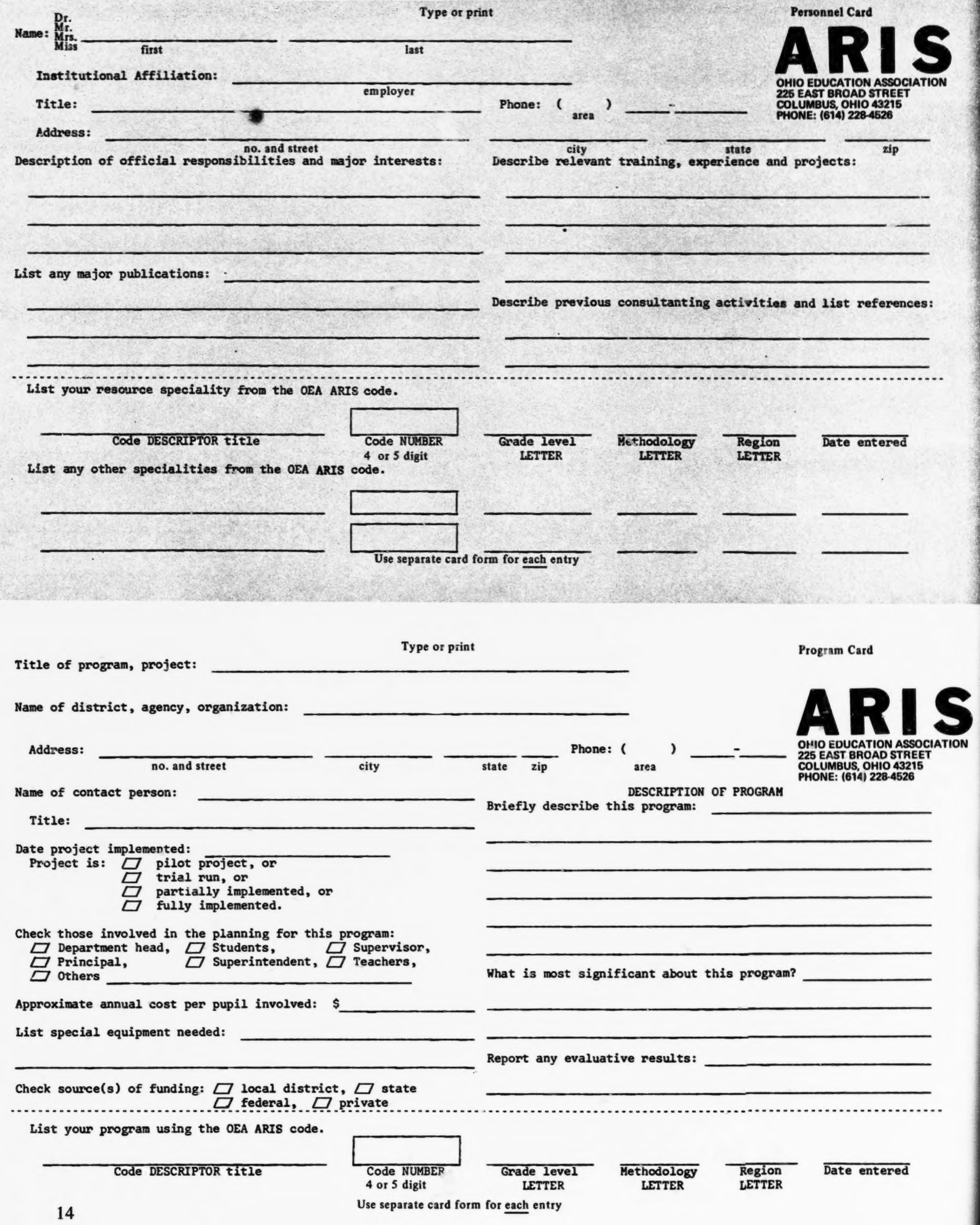
Date Completed

TIME EXPENDED
User's time (if he is present)_________hrs.
Staff time_________hrs.
Total:__________hrs.

MOREL 302/200/3-68

Figure 11

PERSONNEL AND PROGRAM DATA CARDS



Type or print

Personnel Card

ARIS

OHIO EDUCATION ASSOCIATION
225 EAST BROAD STREET
COLUMBUS, OHIO 43215
PHONE: (614) 228-4526

Name: Dr. Mr. Mrs. Miss ____________ first ____________ last

Institutional Affiliation: ____________ employer

Title: ____________ Phone: ( ) area ____-____

Address: ____________ no. and street ____________ city ____________ state ____________ zip

Description of official responsibilities and major interests:

Describe relevant training, experience and projects:

List any major publications:

Describe previous consultanting activities and list references:

List your resource speciality from the OEA ARIS code.

Code DESCRIPTOR title	Code NUMBER 4 or 5 digit	Grade level LETTER	Methodology LETTER	Region LETTER	Date entered

List any other specialities from the OEA ARIS code.

Use separate card form for each entry

Type or print

Program Card

ARIS

OHIO EDUCATION ASSOCIATION
225 EAST BROAD STREET
COLUMBUS, OHIO 43215
PHONE: (614) 228-4526

Title of program, project: ____________

Name of district, agency, organization: ____________

Address: ____________ no. and street ____________ city ____________ state ____________ zip Phone: ( ) area ____-____

Name of contact person: ____________

Title: ____________

Date project implemented: ____________

Project is:
☐ pilot project, or
☐ trial run, or
☐ partially implemented, or
☐ fully implemented.

Check those involved in the planning for this program:
☐ Department head, ☐ Students, ☐ Supervisor,
☐ Principal, ☐ Superintendent, ☐ Teachers,
☐ Others ____________

Approximate annual cost per pupil involved: $____________

List special equipment needed: ____________

Check source(s) of funding: ☐ local district, ☐ state
☐ federal, ☐ private

DESCRIPTION OF PROGRAM

Briefly describe this program: ____________

What is most significant about this program? ____________

Report any evaluative results: ____________

List your program using the OEA ARIS code.

Code DESCRIPTOR title	Code NUMBER 4 or 5 digit	Grade level LETTER	Methodology LETTER	Region LETTER	Date entered

Use separate card form for each entry

R I S SEARCHING PROCESS

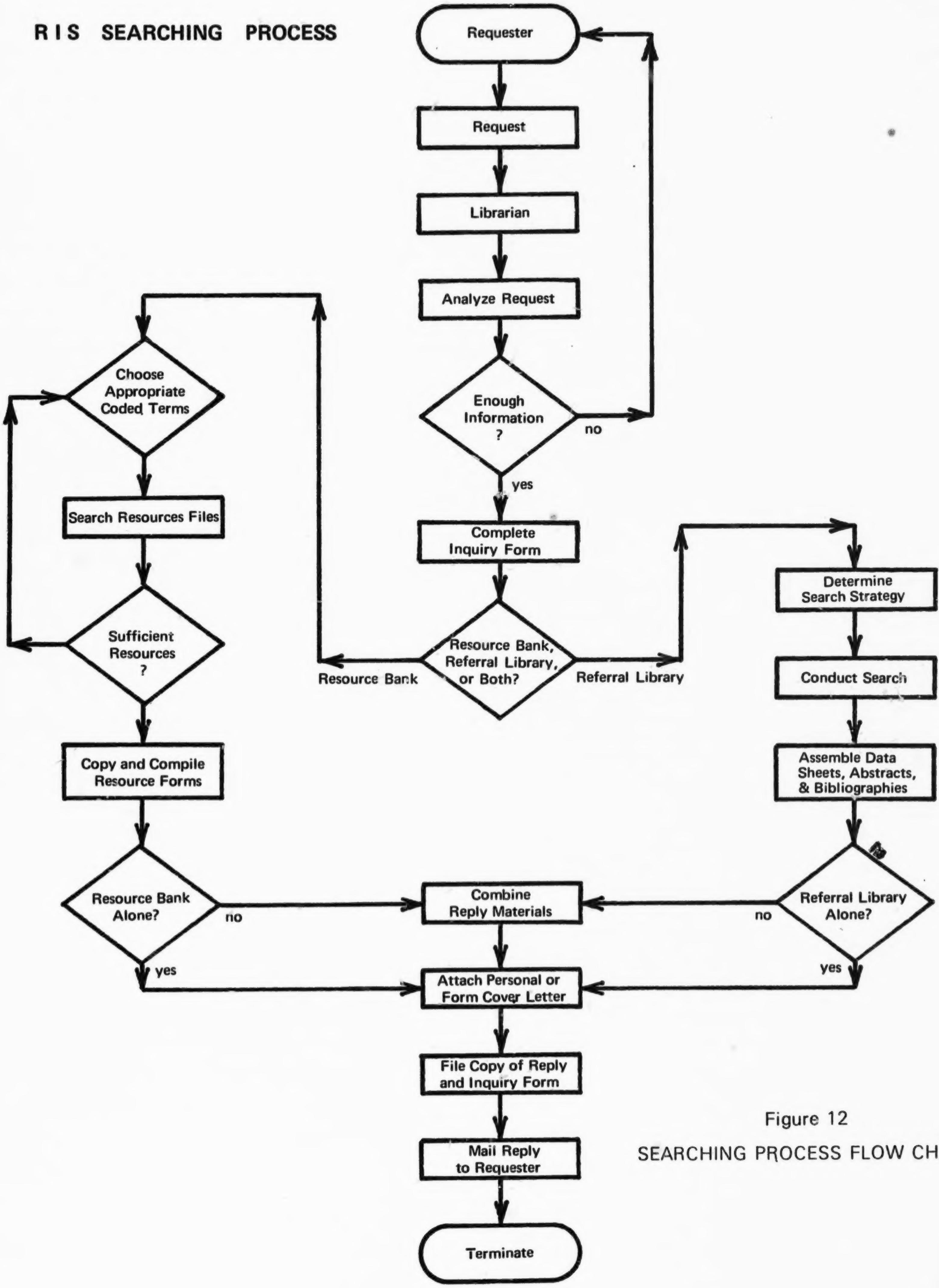

Requester
Request
Librarian
Analyze Request
Enough Information ?
no
yes
Complete Inquiry Form
Resource Bank, Referral Library, or Both?
Resource Bank
Referral Library
Choose Appropriate Coded Terms
Search Resources Files
Sufficient Resources ?
Copy and Compile Resource Forms
Resource Bank Alone?
no
yes
Determine Search Strategy
Conduct Search
Assemble Data Sheets, Abstracts, & Bibliographies
Referral Library Alone?
no
yes
Combine Reply Materials
Attach Personal or Form Cover Letter
File Copy of Reply and Inquiry Form
Mail Reply to Requester
Terminate

Figure 12
SEARCHING PROCESS FLOW CHART

3.

Installation

Certainly one criterion worthy of consideration in making judgments about a development activity or its resulting product would be that of, "Is it being used?" In terms of an information system, this is interpreted as, "Has interest been shown in acquiring and operating the information system?" Interest in acquiring and operating the system might naturally evolve as a result of the system's use.

MOREL's goal was to develop and install an information system in the region. Evidence of interest in acquiring and operating such an information system is illustrated by an operational installation with the Ohio Education Association (OEA). Their system, Association Referral Information Service (ARIS), is intended to serve the entire state of Ohio. Its operation utilizes the Access 60 system described in Chapter 2 and, with the assistance of MOREL, was developed as an alternative to the McBee System. Utilizing their field staff, the OEA is able to identify exemplary people and programs throughout the state, obtaining essential information resulting in quality resources for requesters of information. This is augmented with materials from their central library.

The ASSIST Center, a Wayne County (Michigan) Title III project, provides information on people, programs and printed materials. In the early stages of development, MOREL and ASSIST sought to cooperate in matters of classification and retrieval systems to avoid duplication and facilitate common access to both systems. Since these early cooperative activities, MOREL has transferred to ASSIST selected components of the Resource Bank and Referral Library. Further cooperative efforts are under way involving the State Department of Education Title III office to effect a broadening of the present Wayne County ASSIST Center Program into a state information system.

To our knowledge, this is the first attempt to link requesters of information with exemplary people and programs as well as printed references on a regional basis. These two examples illustrate the regional nature and the possibilities offered for the establishment of an effective network of information services. Mutual cooperation among existing information systems to effect a standardization of classification schemes compatable with various retrieval systems will allow for common access to virtually unlimited qualities of educational information.

For further information on the activities of the installations, contact:

Michigan-Ohio Regional Educational Laboratory
3750 Woodward Avenue
Detroit, Michigan 48201
(313) 833-1320
Charles J. Kromer
Coordinator, Information Services

Association Referral Information Service
Ohio Education Association
225 East Broad Street
Columbus, Ohio 43215
(614) 228-4526
Byron Marlowe
Coordinator, Information Services

ASSIST Center
33030 Van Born
Wayne, Michigan 48184
(313) 729-1770
Dr. Sanford Glovinsky
Assistant Director, Information Services

4.

Administration of the System

In giving consideration to any venture, concern for certain administrative details is always in order. To round out the description of the MOREL Information System operation, this chapter discusses areas of staffing, facilities, costs, timetable, and evaluation. While the intent is to provide complete and comprehensive coverage of these items, the particular circumstances of any potential installation might alter the figures markedly.

Staffing

In undertaking the operation of an information system, it is critical that this responsibility be placed in the hands of a qualified coordinator. Since this field is relatively new, one may look to areas such as research and development activities, library services, or business and industry for such people. One cannot over stress the importance of this position as it is essential to the continued success of the venture.

The Library component of the system requires a qualified librarian capable of setting up the necessary procedures and assisting with the handling of requests. A full-time clerk or clerk-secretary is essential from the start of the library.

Information specialists are needed to assist with the identification, acquiring, and retrieving of exemplary people and programs. When not occupied with these tasks, the information specialists will work on servicing the requests for information. Information specialists are professionals, many come from backgrounds in libraries, communication skills, and related information work. To facilitate these efforts, a clerk or clerk-secretary should be available to handle the more routine activities of form mailing, typing, copying, and correspondence.

To summarize, it would seem that the minimum staff requirements would involve a coordinator, librarian, information specialist, and two clerks or clerk-secretaries. Again, specific situations may provide opportunities to utilize the services or free time of some existing employees. However, to give some idea of cost, the list below illustrates the ranges as we see them existing in our geographic area.

Coordinator of Information Services	$12,000 - 20,000
Librarian	$ 6,500 - 13,000
Information Specialists	$ 6,500 - 13,000
Clerks	$ 4,000 - 6,000
Clerk-secretaries	$ 5,000 - 8,000

Facilities

The major concern regarding facilities is to locate all components of the information system in close proximity to one another and to the people who will be involved in its operation. Of special importance is access to a copying machine. The library will require the largest area and should provide a minimum of 1,000 sq. ft. for shelving and reference work.

In addition, an office-workroom combination is needed to handle the ordering and processing of materials. Space to house the files and retrieval equipment for the exemplary people and programs should be adjacent to the library. In addition, office and clerk-secretarial space is required. The combined requirements for the total Information System including the library should be 1500 sq. ft. minimum.

Costs

In order to determine costs, it is important to know the type of equipment and materials required to perform the task. While a simple listing will not in itself detail costs, it will provide an idea of the requirements of the system and the opportunity to estimate a range of costs for its operation. To facilitate this, a list of major items is given below:

Library

- Library Shelving (6 ft. high, 40 ft. long)
- Reference Tables and Chairs (18 seats)
- Library Desk (1)
- Library Clerk Desk (1)
- Library Clerk Typewriter (1)
- File Cabinets, 4-drawer legal (2)
- File Cabinets, 4-drawer letter (6)
- Card Catalog Stand
- Dictionary Stand
- Periodical Shelving (60 periodicals)
- Reference Collection

Resource Bank

Retrieval Equipment (McBee or Access)
4 Drawer Legal Files (4)
Information Specialist Desk
Clerk Desk
Clerk Typewriter

Miscellaneous

Paper
Forms
Postage & Telephone
Copying costs

No dollar figures are given here due to the available range in quality of equipment and materials. Reference has already been made to the McBee and Access 60 costs and a detailing of the reference collection can be found in Appendix E.

Timetable

This aspect of an Information System will have direct bearing on the success of the undertaking. It is suggested that time and money be spent to visit existing locations to view their approach to the question of staff, facilities and costs. Such visits provide an opportunity to observe the progression of an Information System from its initial installation stages to its present operational status, and to obtain first hand information as to cost projections. Visits to other, more specialized information services such as Project RISE, IDEA, ERIC, etc. will allow for a comparison of the benefits of the MOREL System. It is significant to repeat at this point that the MOREL Information System is designed to link people and programs as well as printed material, and the other Information Systems identified are concerned primarily with printed materials. Thus the need for comparison of efforts, costs, and resultant outcomes.

Evaluation

It is inevitable that the subject of evaluation eventually — and properly — enters the discussion of most educational practices. One must remind himself of the goals or objectives of the MOREL Information System to provide a framework for the evaluation of the system. Since it was stated in Chapter 2 that "linking of people, programs, and printed materials to interested educators" was the goal of the system, it would seem that some evidence should be provided that such was the case. Forthcoming evidence should show that the "linking" was beneficial to the requestor in some way. To state it another way, we should have evidence of relevant referrals to requestors of information.

The question of relevance brings to mind the concern for a method of measuring the degree of relevance as viewed by both the servicer and user of the system. It would seem essential that the servicer of the system should have clearly in his mind the broad goals of the user of his system, in terms of the system's objectives, and should provide people, programs and materials that address these "goals". In other words, the services should provide relevant information to the user.

If the assumption described above is followed, it would be in order to devise an instrument to measure the relevance of the information as viewed by the servicer, measure the relevance of the information as viewed by the user, and to correlate these two to determine the degree of relevance that exists through the operation and utilization of the Information System.

Further information and discussion may be found in the companion publication, *Installation & Evaluation of the Regional Information System.*

5.

The Evolution of a Regional Information System

In 1966, the Michigan-Ohio Regional Educational Laboratory sought to identify the most pressing issues or needs facing those concerned with education in the two-state region. Leading public educators, university personnel, and representatives of business and industry were interviewed. Needs, identified by 902 in-depth interviews, were analyzed and grouped into the following categories:

1. The need for an information system that could disseminate innovations and respond quickly to requests from the region for information.
2. The need for consultants in program development, evaluation, research, demonstration, and implementation.
3. The need for knowledge about how change can take place effectively for the improvement of education.
4. The need for improved education of educational personnel, both preservice and inservice, and especially during the critical period immediately following preservice education, to include:
    a. sub-professionals
    b. teachers
    c. administrators
    d. other staff roles (specialists and generalists)
5. The need for research and development efforts and projects which are aimed at helping children and youth who have learning difficulties to achieve more meaning, purpose, and success in their learning activities. (This item includes both diagnosis and development.)
6. In a somewhat different sense, the need to meet the above needs in a way that (a) fosters a cooperative relationship between schools and colleges, and (b) supports the bringing together of diverse resources that might contribute effectively.

MOREL developed the RIS in accordance with the objective of developing acceptable alternatives to present educational practice. Educators have long clamored for current and relevant information about projects and programs being tried and utilized in countless schools throughout the nation. The dilemma of today's educator is how to obtain relevant information from the vast and ever-increasing stores of knowledge. How can one obtain information about programs and projects, and communicate with the administrators, teachers, students, and community residents who were so vitally involved in the programs? A "one-stop" information system appeared to be an answer. The need for human and institutional resources in addition to printed material was evident.

In order to more fully understand the concept of the Regional Information System, it may be helpful to review information theory and present methods of obtaining information.

The Evolution of Information Services

Information transfer has long been of concern to mankind. As far in the past as ancient China, man carried forth the practice of librarianship. Toward the end of the nineteenth century, the scientific method was first applied to documentation. These early beginnings were concentrated in the fields of science and related technology in order to gain access to reports, research findings, and current publications. As rapid advances in technology and business became a reality, the critical need for systematic access to information became more acute. Specialized information centers were created to handle the expanded needs.

Business and industry were not alone in their desire for access to information. Education, by its very nature, was an organized activity designed partly to transfer knowledge to individuals. However, the educators responsible for carrying on our educational system had need for systematized access to information relating to the various aspects of the educational process. A review of the current status of information services highlights this need.

Informal Practices

A generally recognized activity of educators in need of current information is consultation. State departments of education provide individual consultants in many subject and administrative areas to assist local educators. County and intermediate districts have been established to bring similar services still closer to the local educational environment. Colleges and universities work directly with school systems to provide opportunities for practical application of concepts generated through research efforts. Professional educational associations have organized many of their activities to bring educators together so that exchange of ideas can take place. Some of the larger school districts have initiated information programs to improve educational practice. Individual districts seek the use of federal and state funds to establish and operate centers for the purpose of organizing, classifying, and retrieving relevant educational information. Meetings and conferences provide interaction and shared information and experiences.

Attempts at Formalization

Recently many of the above-mentioned activities have been synthesized into operational networks. Examples of these networks would include the Educational Resources Information Center (ERIC), Committee on National Library/Information Systems (CONLIS), Interuniversity Communication Council (EDUCOM), Committee on Scientific and Technical Information (COSATI), Science Information Exchange (SIE), School Research Information Service (SRIS), and Educational Products Information Exchange (EPIE). Centers providing educational information services on a localized basis include:

1. RISE — Research and Information Services for Education
   443 South Gulph Road
   King of Prussia, Pennsylvania 19406
2. IDEAL — Identification, Dissemination, Evaluation, and Adaptation of Laboratory Studies
   College of Education, University of Florida
   Gainesville, Florida 32601
3. ASSIST — Activities to Stimulate and Support Innovation in Schools Today
   33030 Van Born Road
   Wayne, Michigan 48184
4. STADIS — Statewide Dissemination Service (a pilot study for the State Department of Education)
   405 Michigan National Tower
   Lansing, Michigan 48933

These networks and centers, in conjunction with county, city, and local school library systems, seem to represent the best efforts at formalizing information services for educators thus far.

It is apparent that a concept of significance to today's educators is to have access to desired information. Gaining access to information will facilitate decision-making, effecting the adoption of improved educational practices.

A Federal Commitment

One recent venture into the area of facilitating change is the regional educational laboratory network. Under Title IV of the Elementary and Secondary Education Act of 1965 (ESEA), provisions were made for the establishment and operation of 20 educational laboratories, to be regional in nature. The laboratory concept was based on the premise that various areas of the nation are involved with pressing educational problems, many of which are unique to the region. An example is the bilingual problem of the Mexican-American in the Southwest. A program developed in that area might also be of value to educators in New York City in relation to the educational problems of the city's Latin-American population. Thus, the concept of a laboratory working on problems unique to its region but sharing ideas and programs with the rest of the country was developed.

A Theoretical Basis

The actual development activity of the RIS centered around the utilization of significant components of existing information transfer models. The resulting *MOREL Information System Model* is presented at the end of this chapter.

The *Murdock-Liston Model* utilizes the sender-channel-receiver concept. Figure 13 shows this in detail. The essence of this model illustrates that information can be transferred face-to-face; through primary recorded media such as handbooks, monographs, etc.; through archival channels such as document depots, special libraries, etc.; through secondary recorded media such as abstracts, indexes, etc.; and through information centers where the system attempts to apply all transfer channels to answer user requests.

A second model, the *Frederick Goodman Model* relating specifically to the field of education, is shown in Figure 14. This model illustrates the continuous cycle of information — showing the relationship of the source of information, through the various types of information, to the users where decision-making occurs. These users, in turn, often serve as sources of information, thus illustrating the cyclical nature of the model. This model was used by MOREL as a basis for beginning its development of the Regional Information System. Since the model includes information types other than printed data, we see the beginnings of the one-stop information center where people, projects, and programs are emphasized in addition to printed materials.

The following seven criteria served as focal points to provide a rationale for the operation of the RIS.

1. The regional concept will be defined for our purposes as serving an area greater than one school district and encompassing up to and including a total state or small grouping of states.
2. High priority is given to the inclusion of referrals to people, programs, projects, and printed materials as resources for a requester of information. These types of resources expand upon the traditional concepts of information services, which largely restricted their activity to the printed page. Judgments about the quality of individual resources when discussing people, projects, and programs is omitted here. The assumption is made that the same kinds of criteria such as expert opinion, conferences, state, college, county and local educators that presently function on an informal basis will continue to apply.
3. Providing a variety of alternatives within each type is central to the RIS design. Thus, the requester can anticipate receiving a variety of resources, concerning people, or programs, or possibly printed information, allowing him to choose those most appropriate to his interest and level of involvement. No judgments are made here as to the use of the information in terms of decision-making, instruc-

tional improvement or effecting change. We assume the information is being requested for some meaningful purpose by the user.

4. The system should facilitate open communications, providing for interpretation of the request in order to allow for the most efficient operation in terms of the time devoted by the user, resource and system.
5. The system should make provision for internal reference service for the organization and its programs.
6. Existing information systems are important referrals in their own right. Therefore, the RIS should support and cooperate with these systems.
7. It is reasonable to expect that it will be difficult to find appropriate resources in response to certain requests; hence, these information voids are recognized as regional needs.

The MOREL Regional Information System was developed with these guidelines and it comprises the Referral phase of the larger model. Two additional phases — Current Awareness (Selected Dissemination of Information) and Information Analysis and Reformulation (State of the Art Reports, etc.) — are seen as a part of the Regional Information System. However, the last two have not been developed to date. Each phase can function separately and the Referral phase described in Chapter 2 clearly shows this independence. The *MOREL Information System Model* is shown in Figure 15.

Figure 13

MURDOCK-LISTON MODEL OF INFORMATION TRANSFER

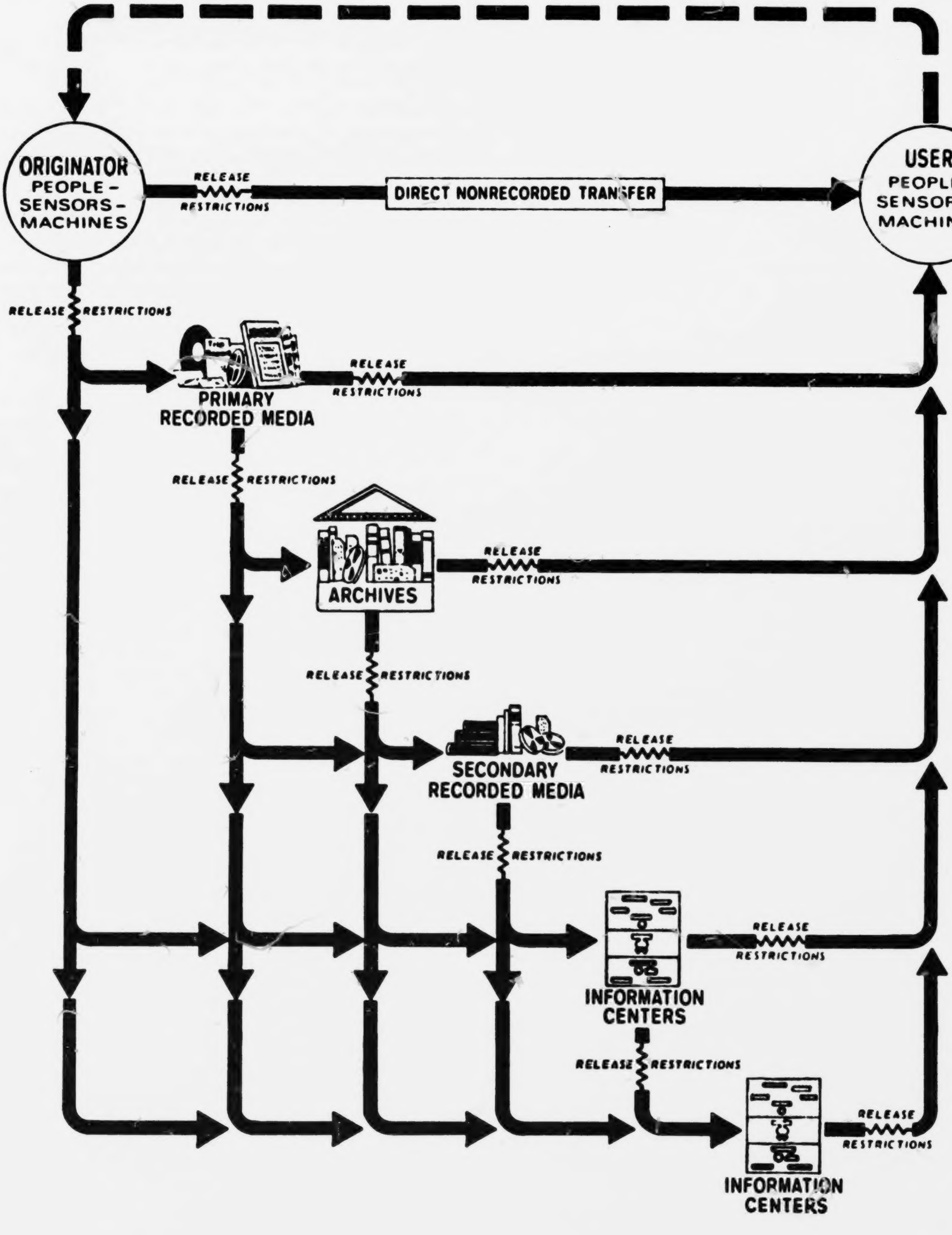

ORIGINATOR
PEOPLE-
SENSORS-
MACHINES
USER
PEOPLE-
SENSORS-
MACHINES
DIRECT NONRECORDED TRANSFER
RELEASE
RESTRICTIONS
PRIMARY RECORDED MEDIA
ARCHIVES
SECONDARY RECORDED MEDIA
INFORMATION CENTERS
INFORMATION CENTERS

Figure 14

FREDERICK GOODMAN MODEL OF INFORMATION TRANSFER

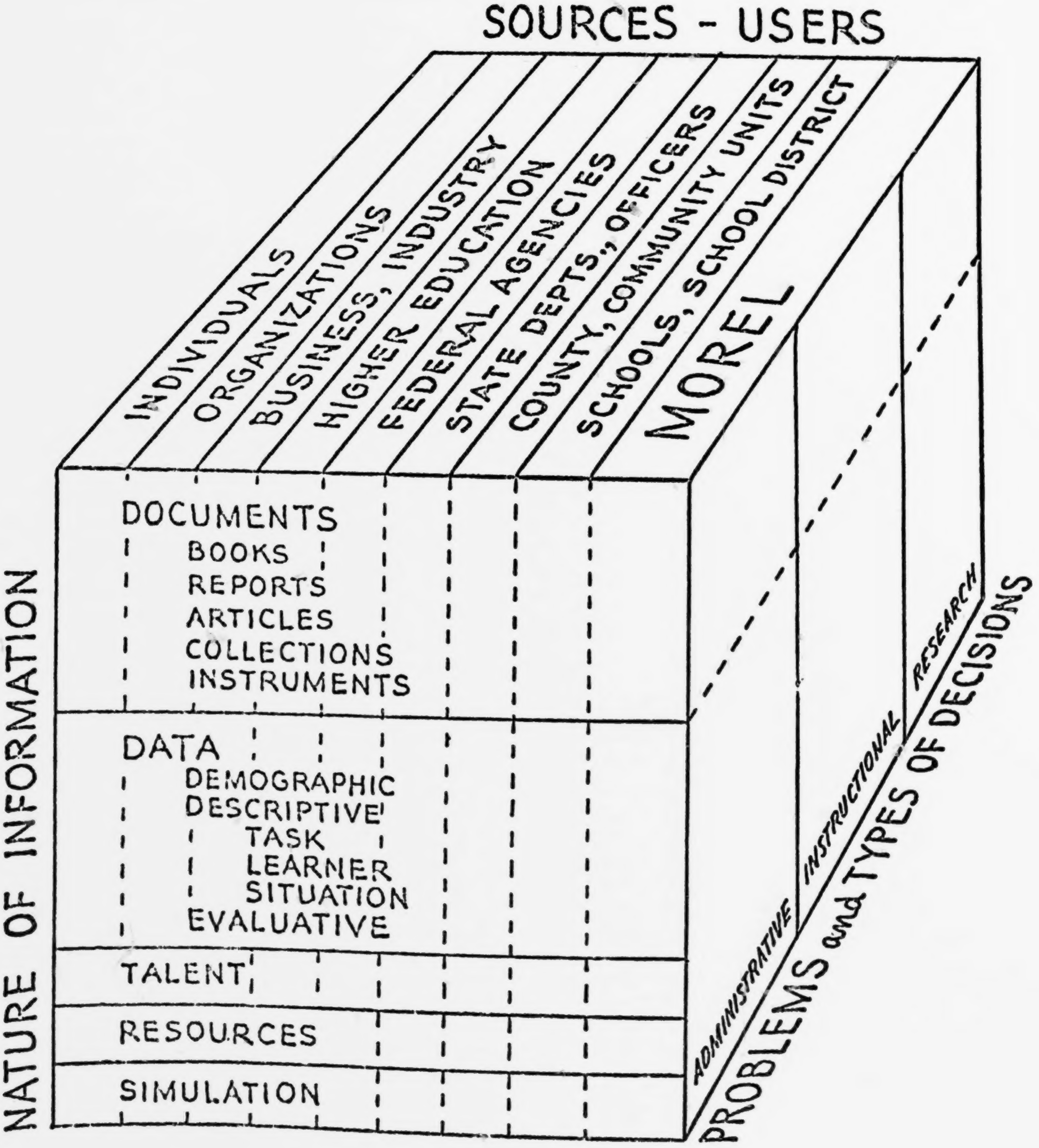
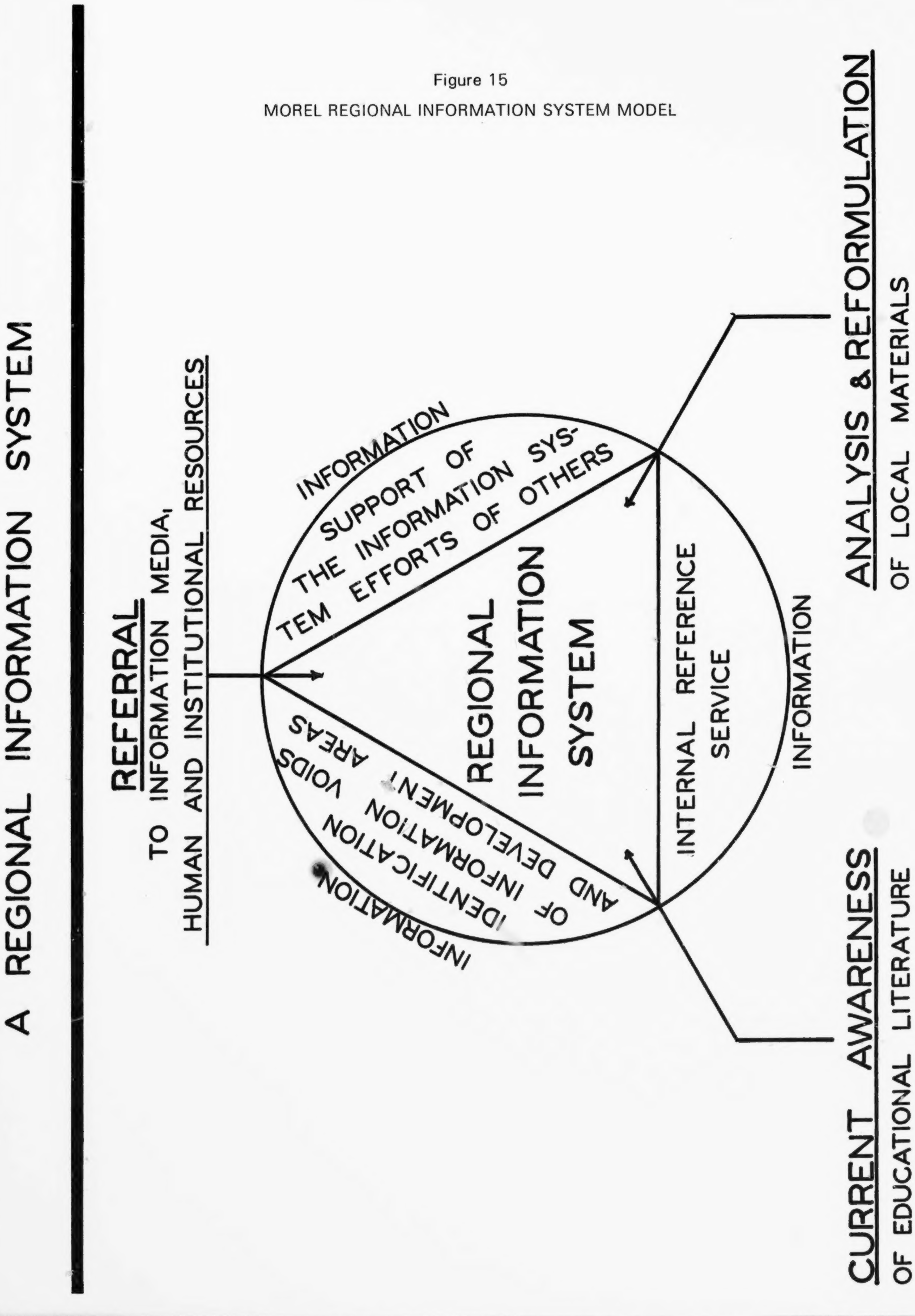

SOURCES - USERS
INDIVIDUALS
ORGANIZATIONS
BUSINESS, INDUSTRY
HIGHER EDUCATION
FEDERAL AGENCIES
STATE DEPTS., OFFICERS
COUNTY, COMMUNITY UNITS
SCHOOLS, SCHOOL DISTRICT
MOREL
NATURE OF INFORMATION
DOCUMENTS
BOOKS
REPORTS
ARTICLES
COLLECTIONS
INSTRUMENTS
DATA
DEMOGRAPHIC
DESCRIPTIVE
TASK
LEARNER
SITUATION
EVALUATIVE
TALENT
RESOURCES
SIMULATION
ADMINISTRATIVE
INSTRUCTIONAL
RESEARCH
PROBLEMS and TYPES OF DECISIONS

Figure 15

MOREL REGIONAL INFORMATION SYSTEM MODEL


A REGIONAL INFORMATION SYSTEM
REFERRAL
TO INFORMATION MEDIA, HUMAN AND INSTITUTIONAL RESOURCES
INFORMATION
IDENTIFICATION OF INFORMATION VOIDS AND DEVELOPMENT AREAS
INFORMATION
SUPPORT OF THE INFORMATION SYSTEM EFFORTS OF OTHERS
REGIONAL INFORMATION SYSTEM
INTERNAL REFERENCE SERVICE
INFORMATION
CURRENT AWARENESS
OF EDUCATIONAL LITERATURE AND RESOURCES
ANALYSIS & REFORMULATION
OF LOCAL MATERIALS

APPENDIX A

MICHIGAN-OHIO REGIONAL EDUCATIONAL LABORATORY

RESOURCE BANK CODING SCHEME

RESOURCE BANK CODE

Please use this Code as a guide to making appropriate entries on the Personnel or Project and Agency data form. Questions which call for use of the Code are marked with an asterisk (*) and are printed in **bold face type.**

If an appropriate category does not appear in this Code, please enter the correct descriptor on the data form. Such new descriptors will be used to continually strengthen and improve this code.

A. POSITION

1	Superintendent
3	Deputy, Associate, or Assistant Superintendent
5	Supervisor, Director
7	High School Principal
9	Junior High or Middle School Principal
11	Elementary School Principal
12	Other Professional Personnel—Elementary
13	Other Professional Personnel—Junior High or Middle Grades
14	Other Professional Personnel—Secondary
15	Intermediate (County) District Superintendent
17	Other Intermediate (County) Professional Personnel
19	College or university President
21	Dean of a College of Education
23	Professor of Education
25	Other College or University Personnel

B. TYPE OF ORGANIZATION

1	Public School–Local
2	Public School-Intermediate
3	Public School–State
4	Non-public School
5	College or University
6	Other Agency (non-profit)
7	Other Agency (profit)
8	Private Consultant
9	Other (specify on data form)

C. METHODOLOGY UTILIZED BY RESOURCE

1	Administrator
2	Cooperative Planning
3	Demonstrator
4	Designer (program)
5	Developer (program)
6	Disseminator
7	Discussion Leader
8	Evaluator
9	Group Process Specialist
10	Interviewer
11	Lecturer
12	Media Specialist
13	Observer
14	Recorder
15	Researcher
16	Workshop Method
17	Writer (author)
18	Writer (project)
19	Other (please indicate on data form)

6	APPLIED SCIENCE
6121	Nursing education
613	Hygiene
6131	Dental Health
614	Safety education
6141	Driver education
616	Alcohol & narcotics
617	Home and family living
62	VOCATIONAL EDUCATION
621	Machine shop & home mechanics
6211	Woodworking
622	Welding
623	Electricity
6231	Radio mechanics
624	Metal working
625	Graphic art (printing)
626	Watchmaking
627	Automotive mechanics
628	Aviation mechanics & training
63	Agriculture
632	Conservation of natural resources
635	Gardening
64	Home economics
641	Nutrition
645	Housing
646	Clothing
65	BUSINESS EDUCATION
651	Office practice (clerical & business machines)
652	Typing
653	Shorthand
654	Business law
655	Business English
656	Business mathematics
657	Bookkeeping
658	Business organization and management
659	Distributive education
6591	Advertising
6592	Salesmanship
6593	Retailing & marketing
67	GUIDANCE
671	Vocational guidance
69	SPECIAL EDUCATION
691	Speech correction
692	Blind
693	Deaf
694	Physically handicapped
695	Mentally retarded
697	Delinquent
698	Foreign born

7	ART
72	Architecture
73	Sculpture
74	Arts and crafts
743	Architectural drafting
744	Mechanical drawing
75	Painting
77	Photography
78	Music
79	PHYSICAL EDUCATION
791	Health Education
792	Gymnastics
793	Games
794	Physical Fitness
795	Dance
796	Sports and athletics
797	Sex Education
799	Camping
8	SOCIAL STUDIES
801	Sociology
802	Urban Problems
803	Social Problems
81	Community life (citzenship)
811	Community resources
827	International relation
828	Non-Western cultures
83	Civics
84	Economics
85	Law
86	Communications
87	Commerce
88	Transportation
89	Geography
9	History (general)
901	Negro History
91	World History
93	Ancient history
931	Anthropology
94	European
941	Russian History
95	Asian History
951	Chinese History
96	African History
97	North American History
971	Indians of North America
973	U. S. History
9771	Ohio History
9774	Michigan History
98	Latin American History
---	Other (please indicate on data form)

F. FUNDING

1	Local Funds (District)
2	Local Funds (Institution)
3	State Funds
4	Civil Rights Act
5	Economic Opportunity Act
6	Elementary and Secondary Education Act - Title I
7	Elementary and Secondary Education Act - Title III
8	Elementary and Secondary Education Act - Other
9	Higher Education Act
10	National Defense Education Act
11	Other Federal Funds (Associated with Department of Health, Education, and Welfare)
12	Other Federal Funds (not associated with HEW)
13	Private Foundations
14	Private Business
15	Other (please indicate on data form)

D. SPECIAL INTEREST

100	Ability (research, grouping, evaluation, tests)
1	Academically Talented
101	Accreditation
102	Achievement (research, grouping, evaluation, tests)
2	Administration
103	Adolescence (research, psychology, teaching)
104	Advanced Placement Programs
105	Aptitude (research, tests, grouping, evaluation)
106	Articulation
107	Attitudes (research, tests)
108	Automation
109	Behavior (evaluation, research, tests and scales)
3	Block Time Programs
111	Brain Damaged Children
112	Certification
113	Child Development (research, teaching, psychology)
114	Cognition
115	Communication (interpersonal)
116	Communications (research, theory)
5	Community Relations
6	Compensatory Education
7	Computer Assisted Instruction
118	Content Analysis
8	Continuing Education
9	Contract Negotiations
4	Cooperative Planning
119	Counseling
10	Creativity
11	Culturally Disadvantaged
12	Curriculum Development (elementary)
13	Curriculum Development (secondary)
120	Cybernetics
14	Data Bank
15	Data Processing
121	Delinquency
17	Derivation Techniques
18	Dissemination of Information
16	Documentation
122	Dropouts
19	Early Childhood Education
20	Economic Factors
21	Educational Television
22	Elementary Education
123	Emotions and Learning
23	Enrichment
24	Evaluation
25	Exceptional Children
124	Extended School Year
26	Extra-Curricular Activities
27	Federal Programs
28	Feedback
125	Field Trips
29	Finance
30	Gaming
31	General Education
126	Gifted Students
32	Group Work
33	Grouping
34	Guidance
127	Handicapped Students
128	Honors Program
35	Human Relations
129	Humanism
36	Independent Study
37	Individual Differences
39	Information Services
133	Innovations in Education
38	In-Service Teacher Education
134	Inquiry Method
40	Instructional Materials
41	Instructional Materials Centers
43	Instructional Technology
42	Instructional Television
44	Interaction Analysis
45	Interdisciplinary Programs
135	Intergroup Relations (integration, segregation)
136	International Education
46	Language Laboratories
137	Leadership Training
48	Mass Media
52	Measurement, Student Performance
138	Mentally Handicapped
49	Microteaching
51	Migrant Education
50	Models, Educational
139	Moral Education
140	Motivation
53	Non-graded Curriculum
141	Optional Attendance
142	Organization (Theory)
54	Orientation
143	Outdoor Education
56	Perception
57	Personnel
58	Physical Plant
55	Pre-School
59	Primary Unit
144	Problem Children
145	Professionalism
146	Programmed Instruction
60	Psychological Factors
61	Pupil Personnel Services
62	Racial Integration
64	Religion, Relation to Public Education
63	Remedial Program
65	Research (action)
66	Research (carrying out)
67	Research (design)
68	Research (findings)
69	Resource Bank
147	Retardation
148	Role (behavior, theory, analysis)

(Continued on following page)

149	Safety Education
70	Scheduling
71	School-Community Relations
150	School Law
151	School-within-a-school
72	Scientific Method
73	Secondary Education
152	Self-concept
75	Self-Renewal
153	Sensitivity Training
154	Sex Education
155	Shared Learning
156	Simulated Social Skill Training
74	Simulation
157	Slow learning students
76	Sociological Factors
158	Staff Utilization
77	Structure of Knowledge
78	Student Behavior
159	Student Teaching
160	Student Exchange
161	Student Government
162	Systems Analysis (systems approach in education)
163	Teachers' Aides (para-professionals)
79	Team Teaching
164	Television and Education
165	Tests and Scales
166	Theories of Curriculum
167	Theories of Instruction
168	Theories of Learning
169	Theories of Supervision
170	Theories of Teaching
171	Underachievement
172	Urban Education
173	Values
174	Work-study programs

E. SUBJECT SPECIALIZATION

1	PHILOSOPHY
150	Psychology
2	RELIGION
3	LITERATURE
31	American literature
32	English literature
4	General language
42	LANGUAGE ARTS
421	Reading
4211	Initial Teaching Alphabet
4212	Programmed Reading
4213	Words in Color
4214	Experimental Programs–Elementary
4215	Experimental Programs–Junior High
4216	Experimental Programs–High School
422	Spelling
423	Handwriting
424	Speech
4241	Drama
4242	Auditorium
425	Poetry
426	English language composition
4261	Journalism
427	Grammar
428	Linguistics
429	Work-study skills
43	German
44	French
45	Italian
46	Spanish
47	Latin
48	Greek
491	Other languages
49	Hebrew
51	MATHEMATICS
515	Statistics
516	Probability
512	Algebra
5121	Linear Algebra
511	Non-College bound math
513	Geometry
514	Trignometry
517	Calculus
519	Experimental Programs
	SCIENCE
52	Astronomy
521	Advanced Courses
522	Experimental Courses
523	Special Materials
53	Physics
531	Harvard Project Physics
532	Physical Science Study Committee
533	Advanced Courses
534	Experimental Courses
535	Special Materials
536	Physical Science
54	Chemistry
541	Chemical Bond Approach
542	C.H.E.M. Study
543	Advanced Courses
544	Experimental Courses
545	Special Materials
55	Geology
551	Weather
552	Advanced Courses
553	Experimental Courses
554	Special Materials
56	Paleontology
561	Advanced Courses
562	Experimental Courses
563	Special Materials
57	Biology
571	Physiology
572	BSCS–Biological Science Curriculum Study
573	Advanced Courses
574	Experimental Courses
575	Special Materials
576	Sex Education
58	Botany
581	Advanced Courses
582	Experimental Courses
583	Special Materials
59	Zoology
591	Advanced Courses
592	Experimental Courses
593	Special Materials

(Continued on following page)

APPENDIX B

ARIS
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ASSOCIATION
REFERRAL
INFORMATION
SERVICE

ASSOCIATION REFERRAL INFORMATION SERVICE

The OEA Association Referral Information Service assists educators by identifying consultants, programs and printed resources for use in improving instruction and upgrading the skills of school personnel. ARIS consists of an Information Center composed of consultants and innovative or exemplary programs, and a Resource Center consisting of literature sources for the use of educators. Upon receipt of a request the Information Center will identify the appropriate personnel and programs and the Resource Center will identify library sources.

OEA ARIS makes its services available to all educators free of charge.

INSTRUCTIONS

ARIS is designed to store and retrieve information by code number and letter. If your request for information should cover a number of code references, then you would use each code reference.

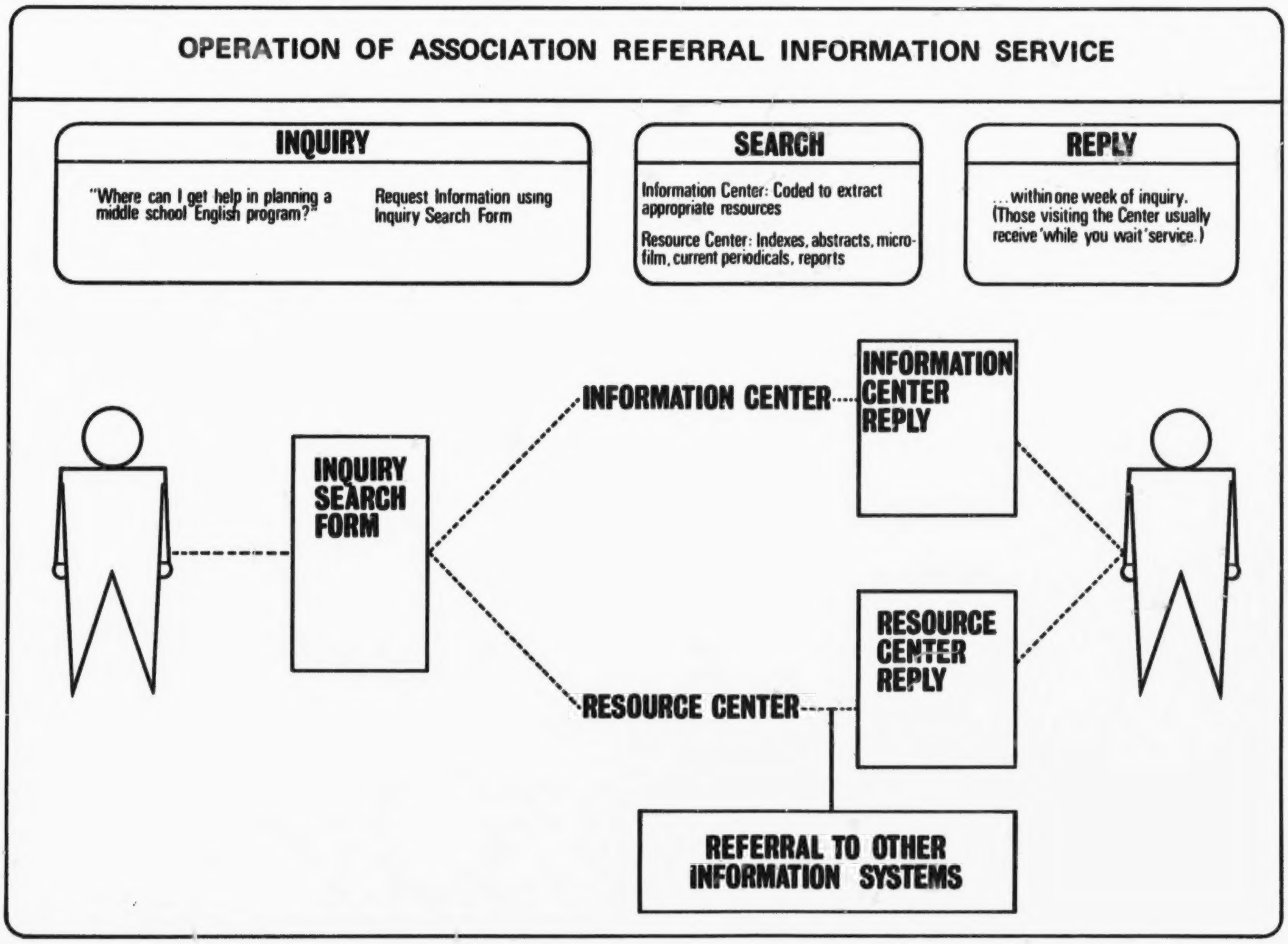
Inquiry Forms are available to facilitate rapid retrieval of information from the center. Please use the Inquiry Form or request your information in the same format as the Inquiry Form.

1. Select the topic or topics appropriate for your question(s).
2. Using the Inquiry Form, request the information by both the CODE TITLE and NUMBER for subject, and the LETTER code for grade, method, and region.

Business math.	1141	F	None	A
Code DESCRIPTOR title	Code NUMBER	Grade level LETTER	Methodology LETTER	Region LETTER

(This requests the program and personnel listings of business mathematics at the high school level within Ohio without regard to instructional methodology.)

3. Mail your request to: OEA ARIS
Ohio Education Association
225 East Broad Street
Columbus, Ohio 43215



OPERATION OF ASSOCIATION REFERRAL INFORMATION SERVICE

INQUIRY

"Where can I get help in planning a middle school English program?"

Request Information using Inquiry Search Form

SEARCH

Information Center: Coded to extract appropriate resources

Resource Center: Indexes, abstracts, microfilm, current periodicals, reports

REPLY

...within one week of inquiry. (Those visiting the Center usually receive 'while you wait' service.)

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Code No.

MATHEMATICS AND NATURAL SCIENCES

Mathematics 1110
General Science 1210
Astronomy 1310
Biology – Botany, Zoology 1410
Chemistry 1510
Earth Science 1610
Physics 1710

SOCIAL SCIENCES

Introductory Social Studies 2110
Multi-Disciplinary Studies 2210
Economics 2310
Geography 2410
History 2510
Problems of Democracy – Civics 2610
Psychology 2710
Sociology – Anthropology 2810

COMMUNICATION ARTS AND HUMANITIES

Language Skills 3110
Linguistics 3210
Literature By Source 3310
Literary Criticism 3410
Written and Verbal Communication 3510
Foreign Language Instruction 3610
General and Fine Arts 3710
Music 3810

HOME, VOCATIONAL, INDUSTRIAL SKILLS

Agricultural and Home Economics 4110
Business and Office 4210
Industrial Arts (non-vocational) 4310
Trade and Industrial Skills 4410
On the Job Training 4610

HEALTH AND SAFETY EDUCATION, DIFFERENTIALIZED CURRICULUM

Physical Education Instruction 5110
Physical Conditioning 5210
Health and Safety Education 5310
Special Education 5410

INSTRUCTIONAL CONCEPTS AND TECHNIQUES

Curriculum 6110
Guidance and Counseling 6210
Instructional Materials and Evaluation 6310

ADMINISTRATIVE POLICIES

Community Relations 7110
Faculty and Staff Relations 7210
Student Relations 7310
Training Techniques and Programs 7410

ADMINISTRATIVE FUNCTIONS

Buildings and Supplies 8110
School Finance and Law 8210

MATHEMATICS AND NATURAL SCIENCES
Mathematics, General Science, Astronomy, Biology, Chemistry, Earth Science, Physics

MATHEMATICS

1110	Arithmetic
1111	Addition, subtraction
1112	Decimal, fractions
1113	Multiplication, division
1114	"New" mathematics
11141	Numeration
11142	Set theory
1115	Ratios, proportions, percent
1116	Theory of numbers
1118	Refresher arithmetic
1119	Remedial arithmetic
1120	General Mathematics
1121	Non-college bound
1122	Theory of equations
1128	Refresher mathematics
1129	Remedial mathematics
1130	Systems of Measurement
1131	Fluids
1132	Metric
1133	Money
1134	Non-metric
1135	Time
1140	Specialized Mathematics
1141	Business math
1142	Computer math
1143	Consumer math
1144	Shop math
1150	Algebra
1151	College
1152	Introductory course
1153	Linear
1154	Matrix
1160	Geometry, Trigonometry, Calculus
1161	Analytic geometry
1162	Calculus
1163	Exponential, periodic functions
1164	Plane geometry
1165	Solid geometry
1170	Advanced Instruction
1171	Mathematical models
1172	Probability
1173	Statistics
11731	Non-parametric
11732	Parametric
1180	Experimental Concepts/Courses-Elementary
1181	Experimental teaching of mathematics (K-6)
1182	Greater Cleveland Math Programs (K-12)
1184	Madison Math Project (K-9)
1185	Minnesota Math and Science Teaching Project (K-6)
1186	School Math Study Group (K-12)
1187	So. Ill. Univ.-Comprehensive School Math Project (K-12)
1188	Univ. Ill. Arithmetic Project
1190	Experimental Concepts/Courses-Secondary
1191	Ball State Teachers College Experimental Program (7-12)
1192	Boston College Math Institute
1193	Commission on Math, (CEEB) (9-12)
1194	National Council, Teachers, Math (7-12)
1195	School Math Curriculum Improvement Study (7-12)
1196	Univ. Ill. Committee on School Mathematics (9-12)
1197	Univ. Md. Math Project (7-8)

GENERAL SCIENCE

1210	Biological Sciences
1211	Animals, plants
1212	Biology
1213	Zoology
1220	Earth Sciences
1221	Astronomy
1222	Geography
1223	Geology
1230	Physical Sciences
1231	Chemistry
1232	Physics
1240	Ecology
1250	Special Instruction
1251	Science Fairs
1258	Refresher Science
1259	Remedial Science
1270	Advanced Instruction
1280	Field Trips
1285	Laboratory Instruction
1290	Experimental Concepts/Courses
1291	AAAS (process approach)
1292	Elementary School Science Project
12921	California
12922	Illinois
12923	Utah
1293	Elementary Science Project
1294	Elementary Science Study
1185	Minnesota Math and Science Teaching Project
1295	Science Curriculum Improvement Study
1296	School Science Curriculum Project
1297	Secondary School Science Project

ASTRONOMY

1310	General Instruction
1311	Calendars, calendar skills
1312	Celestial systems
1313	Cosmology
1314	Meterology
1315	Navigation
1316	Telescopes, observatories
1317	Surveying, mapping
1318	Refresher course
1370	Advanced Instruction
1380	Field Trips or Observatories
1390	Experimental Concepts/Courses
1391	Elementary School Science Project (also earth science)

BIOLOGY - BOTANY, ZOOLOGY

1410	General Instruction
1411	Animal life
1412	Human anatomy, processes
1413	Marine biology
1414	Microbiology
2844	Sex Education
1418	Refresher course
1419	Remedial course
1420	Botany
1421	Ecology, genetics
1422	Maturation
1423	Pathology
1424	Physiology
1425	Reproduction
1426	Taxonomy
1430	Zoology
1431	Ecology, genetics
1432	Maturation
1433	Pathology
1434	Physiology
1435	Preservation of specimens
1436	Reproduction
1437	Taxonomy

1470	Advanced Instruction
1471	Bacteriology
1472	Biochemistry
1473	Biophysics
1474	Cytology
1475	Entomology
1476	Microbiology
1477	Molecular biology
1480	Field Trips or Nature Study
1485	Laboratory Instruction
1490	Experimental Concepts/Courses
1491	Biological Sciences Curriculum Study
14911	First course
14912	Second course
14913	Special materials

CHEMISTRY

1510	General Instruction
1511	Chemical bonding
1512	Chemical calculations
1513	Chemical reactions, equilibriums
1515	Periodic properties
1518	Refresher course
1519	Remedial course
1520	General Inorganic
1530	General Organic
1540	Qualitative and Quantitative
1541	Qualitative analysis
1542	Quantitative analysis
1550	Physical Chemistry
1570	Advanced Instruction
1580	Field Trips or Demonstrations
1585	Laboratory Instruction
1590	Experimental Concepts/Courses
1591	Chemical Bond Approach
1592	Chemical Education Materials Study
1794	Portland Project

EARTH SCIENCE

1610	General Instruction
1618	Refresher course
1619	Remedial course
	Astronomy (see 1300)
	Geography (see 2400)
1630	Geology
1631	Economic geology
1632	Historical geology
1633	Minerology
1634	Paleontology
1635	Petrology, rock identification
1636	Physiography
1637	Structural geology
1640	Hydrology, Oceonography
1670	Advanced Instruction
1680	Field Trips
1685	Laboratory Instruction
1690	Experimental Concept/Courses
1691	Earth Science Curriculum Project
1391	Elementary School Science Project
1692	Secondary School Science Project

PHYSICS

1710	General Instruction
1711	Electricity, magnetism
1712	Heat
1713	Light
1714	Matter
1715	Mechanics
1716	Sound
1717	Wave motion
1718	Refresher course
1719	Remedial course
1770	Advanced Instruction
1771	Atomic, nuclear structure
1772	Kenetic molecular theory
1773	Mechanics (forces, motions)
1774	Nuclear physics
1775	Thermodynamics
1780	Field Trips or Demonstrations
1785	Laboratory Instruction
1790	Experimental Concepts/Courses
1791	Harvard Project Physics
1792	Introductory physical sciences
1793	Physical Science Study
1794	Portland Project (also chemistry)

SOCIAL SCIENCES

Introductory Social Studies, Multi-Disciplinary Studies, Economics, Geography, History, Problems of Democracy—Civics, Psychology, Sociology — Anthropology

INTRODUCTORY SOCIAL STUDIES

2110	Communication Systems
2120	Community Helpers
2130	Development of Nations, Civilization
2131	African
2132	Asian
2133	European
2140	Explorers and Pioneers
2150	Transportation Systems
2160	Socialization
2161	Civic responsibilities
2162	Heroes
2163	Holidays
2164	Home, family
2170	World of Work
2171	Occupational planning
2172	Vocational education

MULTI-DISCIPLINARY STUDIES

2210	Continental
2211	Africa
2212	Asia
2213	Europe
2214	Far East
2215	Middle East
2216	North America
2217	South America
2218	Soviet bloc
2220	Regions of U. S.
2221	Midwest
2222	North Central
2223	Northeast
2224	Northwest
2225	Southeast
2226	Southwest
2230	Man and Society/Culture
2280	Trips, Tours
2290	Experimental Concepts/Culture
2291	Social Science Program
2292	Syracuse Univ. Social Science Project
2293	Univ. Cal. Social Studies (Asian)
2294	Univ. Minn. Project Social Studies

ECONOMICS

2310	American Economics
2311	Consumer economics
2312	Insurance and investments
2313	Labor, labor-management
2314	Land economics, urban planning
2315	Money and banking
2316	Monopoly and anti-trust
2317	Wages and earnings
2318	Refresher course
2319	Remedial course
2320	Economic Theory
2321	Capitalism
2322	Communism
2323	Socialism
2330	Public Finance
2331	Fiscal policy
2332	Monetary policy
2333	International trade
2380	Trips, Tours
2390	Experimental Concepts/Courses
2391	Ohio Council for Economic Education
2392	Univ. Chi. Economic Program

GEOGRAPHY

2410	American Geography
2411	Economics
2412	Political
2413	Population
2414	Atmosphere
2415	Biosphere
2416	Hydrosphere
2417	Lithosphere
2418	Refresher course
2419	Remedial course
2420	Historical Geography
2421	Region (specify)
2426	Time period (specify)
2430	Human Geography
2431	Economic patterns
2432	Political patterns
2433	Population
2434	Migration
2435	Miltary patterns
2440	Physical Geography
2441	Atmosphere
2442	Biosphere
2443	Hydrosphere
2444	Lithosphere
2450	Mapping
2451	Drawing
2452	Map reading
2453	Symbols
2480	Trips, Tours
2490	Experimental Concepts/Courses
2491	High School Geography Project

HISTORY

2510	North American
2511	Civil war, reconstruction
2512	Colonial period, independence
2513	Current history
2514	Economic history
2515	Expansionism
2516	Regional or state history (specify)
2517	Religious or ethnic (specify)
2518	Refresher course
2519	Remedial course
2520	European (excluding Russia)
2521	England
2522	France
2523	Germany
2524	Other country (specify)
2526	Renaissance, reformation
2527	Rise of nation state
2528	Industrial revolution
2529	19th and 20th century
2530	Russian
2531	Pre-1917
2532	1917-World War II
2533	Post World War II
2540	Latin American
2541	Caribbean
2542	Central American
2543	European exploration
2544	Inter-American relations
2545	Mexico
2546	Pre-Columbian cultures
2547	South American
2548	20th Century

2550	**Non-Western History**
2551	African
2552	Asian and Middle East
2553	Colonialism
2554	Far East
2555	Post-World War II
2556	Trade
2560	**Ancient and World History**
2561	Anti-colonialism
2562	Christianity
2563	Industrial Revolution
2564	Greek philosophy
2565	Roman empire
2566	Westernization of Asia
2567	20th Century
2570	**Western Civilization**
2571	Renaissance and reformation
2572	Rise of nation state
2573	Roman Empire
2574	Secularization of society
2580	**Trips, Tours**
2590	**Experimental Concepts/Courses**

PROBLEMS OF DEMOCRACY, CIVICS

2610	**American Government-Structure**
2611	Federalism
2612	Separation of powers
2613	Political socialization
2614	Sampling and polls
2615	Public administration
2616	State (specify)
2620	**American Government-Policies**
2621	Civil liberties
2622	Domestic policy
2623	Foreign policy
2628	Refresher civics
2629	Remedial civics
2630	**European Government**
2631	England
2632	France
2633	West Germany
2634	Eastern Europe
2640	**Non-Western Political System**
2641	African Sub-Sahara
2642	Northern Africa
2643	Asian
2644	Far East
2645	Middle East
2646	Central American
2647	South American
2650	**Political Theory**
2651	In U. S. Constitution
2652	Normative
2653	Behavioral
2660	**International Relations**
2661	Colonialism-Imperialism
2662	International Law
2663	International Organization
2664	United Nations
2680	**Trips, Tours**
2690	**Experimental Concepts/Courses**

PSYCHOLOGY

2710	**Developmental and Adjustment**
2711	Adjustment techniques
2712	Childhood behavior
2713	Maturation, Concept of self
2714	Parent-child relations
2715	Personality theories
2716	Prejudice
2717	Social norms
2718	Refresher course
2719	Remedial course
2720	**Educational**
2721	Emotions and adjustment
2722	Individual differences
2723	Learning theory
2724	Motivation
2780	**Trips, Tours**
2790	**Experimental Concepts/Courses**

SOCIOLOGY - ANTHROPOLOGY

2810	**Anthropology**
2811	American Indians
2812	Archeology
2813	Cultural transmission
2814	Kinship systems
2815	Physical anthropology
2820	**Community and Socialization**
2821	Rural Society
2822	Socialization
2823	Social movements
2824	Urban society
2830	**Social Organization**
2831	Education
2832	Family
2833	Religion
2834	Social class
2840	**Social Problems**
2841	Criminology, penology
2842	Demography
2843	Family and marriage
2844	Sex education
2845	Social welfare
2880	**Trips, Tours**
2890	**Experimental Concepts/Courses**
2891	Anthropology Curriculum Study Project
2892	Sociological Resources for Secondary Schools
2893	Univ. Ga. Anthropology Project

COMMUNICATION ARTS AND HUMANITIES

Language Skills, Linguistics, Literature By Source, Literary Criticism, Written and Verbal Communication, Foreign Language Instruction, General and Fine Arts, Music

LANGUAGE SKILLS

- 3110 Alphabet and Sounds
  - 3111 Developmental (linguistic, phonic)
  - 3112 Sound-symbol
    - 31121 I.T.A.
    - 31122 Words in color
  - 3113 Traditional

- 3120 Reading
  - 3121 Beginning reading
  - 3122 College prep reading
  - 3123 Individualized reading
  - 3124 Reading readiness
  - 3128 Refresher reading
  - 3129 Remedial reading

- 3130 Penmanship

- 3140 Spelling, Vocabulary

- 3150 Punctuation

- 3160 Listening Skills

- 3170 Dictionary and Reference Skills

- 3190 Experimental Concepts/Courses

LINGUISTICS

- 3210 Phonology
  - 3211 Phonemics
  - 3212 Phonetics

- 3220 Grammar
  - 3221 Generative
  - 3222 Structural
  - 3223 Traditional
  - 3224 Transformational

- 3230 Usage (functional grammar)

- 3240 History of English Language

- 3250 Dialectology

- 3260 Semantics

- 3290 Experimental Concepts/Courses

LITERATURE BY SOURCE

- 3310 American
  - 3311 Colonial Literature
  - 3312 Emerson and Thoreau
  - 3313 Hawthorne and Melville
  - 3314 Literature of the Revolution
  - 3315 Other 19th Century writers
  - 3316 Regional writers
  - 3317 Romantics
  - 3318 Whitman, Poe and Dickinson
  - 3319 20th Century writers

- 3320 English
  - 3321 Chaucer and Middle English Literature
  - 3322 Dickens, Eliot and Hardy
  - 3323 Other Victorian writers
  - 3324 Renaissance (1485-1660)
  - 3325 Restoration and 18th Century
  - 3326 Romantics
  - 3327 Shakespeare
  - 3328 20th Century writers

- 3330 Biblical

- 3340 Classical

- 3350 World Literature

- 3360 Folklore

- 3380 Trips, Tours

- 3390 Experimental Concepts/Courses

LITERARY CRITICISM

- 3410 Biographical

- 3420 Drama

- 3430 Essay

- 3440 Fiction

- 3450 Poetry

- 3490 Experimental Concepts/Courses

WRITTEN AND VERBAL COMMUNICATION

- 3510 Rhetoric
  - 3511 Composition mechanics
  - 3512 English fundamentals
  - 3518 Refresher writing
  - 3519 Remedial writing

- 3520 Writing
  - 3521 Creative
  - 3522 Expository
  - 3523 Narrative
  - 3524 Persuasive

- 3530 Journalism
  - 3531 Editorial writing
  - 3532 Feature writing
  - 3533 Reporting

- 3550 Public Address
  - 3551 Argumentation and debate
  - 3552 Discussion
  - 3553 Parliamentary procedure
  - 3554 Persuasion
  - 3555 Public speaking

- 3560 Oral Interpretation
  - 3561 Choral speech
  - 3562 Readers' theatre
  - 3563 Verse choir

- 3570 Speech through Media
  - 3571 Film
  - 3572 Radio
  - 3573 Tape
  - 3574 Television

- 3580 Trips, Tours

- 3590 Experimental Concepts/Courses

FOREIGN LANGUAGE INSTRUCTION

- 3610 English-as-Second-Language

- 3620 French
  - 3621 General orientation
  - 3622 Audio-lingual
    - 36221 Beginning
    - 36222 Intermediate
    - 36223 Advanced
    - 36224 Seminars
    - 36225 Language laboratory

3623	Traditional, grammatical
36231	Beginning
36232	Intermediate
36233	Advanced
36234	Seminars
3624	Literature, culture
3630	German
3631	General orientation
3632	Audio-lingual
36321	Beginning
36322	Intermediate
36323	Advanced
36324	Seminars
36325	Language laboratory
3633	Traditional, grammatical
36331	Beginning
36332	Intermediate
36333	Advanced
36334	Seminars
3634	Literature, culture
3640	Russian
3641	General orientation
3642	Audio-lingual
36421	Beginning
36422	Intermediate
36423	Advanced
36424	Seminars
36425	Language laboratory
3643	Traditional, grammatical
36431	Beginning
36432	Intermediate
36433	Advanced
36434	Seminars
3644	Literature, culture
3650	Spanish
3651	General orientation
3652	Audio-lingual
36521	Beginning
36522	Intermediate
36523	Advanced
36524	Seminars
36525	Language laboratory
3653	Traditional, grammatical
36531	Beginning
36532	Intermediate
36533	Advanced
36534	Seminars
3654	Literature, culture
3660	Other Languages
3661	Chinese
3662	Hebrew
3663	Italian
3664	Japanese
3665	Latin
3666	Swahili
3669	Other (specify)
3680	Trips, Tours
3690	Experimental Concepts/Courses

GENERAL AND FINE ARTS

3710	Visual Art Theory
3711	Appreciation, Criticism, History
3712	Color theory
3720	Visual Art Techniques
3721	Design
3722	Drawing
3723	Graphics
37231	Photography
37232	Print-making
3724	Lettering
3725	Metalwork and jewelry
3726	Painting
3727	Pottery and ceramics
3728	Sculpture
3729	Textiles
3730	Commercial Design
3731	Advertising
3732	Illustration
3740	Environmental Design
3741	Architectural design
3742	Interior design
3743	Landscape design
3744	Urban planning
3750	Dramatic Arts
3751	Acting
3752	History of Drama
3753	Play production
3754	Playwriting
3755	Theatre criticism
3756	Theatre design, stagecraft, costumes
3780	Trips, Tours
3790	Experimental Concepts/Courses

MUSIC

3810	Music Theory
3811	Appreciation
3812	Composition
3813	Fundamentals
3814	Harmony
3820	Vocal Music
3821	Choral
3822	Glee Club
3823	Individual instruction
3824	Pop Groups
3830	Instrumental Music
3831	Band, concert
3832	Band, marching
3833	Ensembles
3834	Orchestra
3835	Pop Groups
3840	Instrumental Instruction
3841	Brass
3842	Keyboard
3843	Percussion
3844	String
3845	Woodwind
3850	Opera
3880	Trips, Tours
3890	Experimental Concepts/Courses

HOME, VOCATIONAL, INDUSTRIAL SKILLS

Agricultural and Home Economics, Business and Office, Industrial Arts (nonvocational), Trade and Industrial Skills, On the Job Training

AGRICULTURAL AND HOME ECONOMICS

4110 Agricultural
4111 Agri-business
4112 Agricultural economics
4113 Agricultural engineering
4114 Agronomy
4115 Animal Science
4116 Conservation, forestry, fishery
4117 Farm records
4118 Horticulture, orchard
4119 Veterinary medicine

4130 Home Economics-Homemaking
4131 Child development and family living
4132 Clothing and textiles
4133 Foods and nutrition
4134 Home management
4135 Housing and home furnishing
2844 Sex education

4140 Home Economics-Occupational
4141 Care and guidance of children
4142 Clothing services
4143 Food services
4144 Home furnishing and services
4145 Institutional services

4180 Field Trips, Demonstrations

4190 Experimental Concepts/Courses

BUSINESS AND OFFICE

4210 General Business Instruction

4220 Office Skills
4221 Bookkeeping and Budgeting
4222 Business Communications
4223 Filing
4224 Shorthand
4225 Typewriting

4230 Office Machines
4231 Computer
4232 Data processing
4233 Duplicating
4234 Tabulating
4235 Transcription

4240 Specialized Instruction
4241 Accounting
4242 Advertising
4243 Business finance
4244 Business law
4245 Data processing
4246 Personnel management
4247 Programmer, systems analyst
4248 Retailing and marketing, sales
4249 Wholesaling

4280 Field Trips, Demonstrations

4290 Experimental Concepts/Courses

INDUSTRIAL ARTS (non-vocational)

4310 Crafts
4311 Ceramics
4312 Jewelry
4313 Leather
4314 Plastics
4315 Textiles

4320 Drawing and Drafting
4321 Blueprints
4322 Design
4323 Drafting
4324 Illustration
4325 Reproduction

4330 Electricity
4331 Appliance repair
4332 Motors
4333 Radio-TV
4334 Industrial control systems
4340 General Shop
4341 Electrical
4342 Machine shop
4343 Metals-cold
4344 Metals-hot
4345 Woods-carpentry
4346 Woods-millwork

4350 Graphic Arts
4351 Binding
4352 Layout
4353 Photography
4354 Printing

4360 Power Mechanics
4361 Internal combustion
4362 Power trains
4363 Hydraulics
4380 Field Trips, Demonstrations

4390 Experimental Concepts/Courses

TRADE AND INDUSTRIAL SKILLS

4410 Construction
4411 Carpentry
4412 Electrical
4413 Masonry, brick
4414 Painting, decorating
4415 Plastering
4416 Plumbing, pipe fitting

4420 Design, Drafting
4421 Architectural
4422 Industrial
4423 Mechanical

4430 Electricity-Electronics
4431 Air conditioning
4432 Industrial electronics
4433 Motors
4434 Small computers
4435 Radio-TV
4436 Refrigeration

4440 Fabric Services
4441 Cleaning, laundering
4442 Leathercraft
4443 Tailoring
4444 Upholstering

4450 Health and Public Service
4451 Barbering
4452 Child care
4453 Cosmotology
4454 Dental technician
4455 Fireman
4456 Law enforcement
4457 Medical technician
4458 Nursing

4510 Industrial and Commercial Printing
4511 Layout and design
4512 Photography
4513 Printing
45131 Letter press
45132 Offset
4514 Typography

4520 Metalworking
4521 Cold metal
4522 Hot metal
4523 Machine shop
4524 Welding

4530	Power Mechanics
4531	Automobile body mechanics
4532	Automotive mechanics
4533	Aviation mechanics
4534	Diesel mechanics
4540	Woodworking
4411	Carpentry
4541	Millwork, cabinetry
4580	Field Trips, Demonstrations
4590	Experimental, Concepts/Courses

ON THE JOB TRAINING

4610	Work-Study (DE and OWE)
4630	Cooperative Plan
4650	Residential School
4670	MDTA, Federal Projects
4680	Trips, Demonstrations
4690	Experimental Concepts/Courses

HEALTH AND SAFETY EDUCATION, DIFFERENTIALIZED CURRICULUM

Physical Education Instruction, Physical Conditioning, Health and Safety Education, Special Education

PHYSICAL EDUCATION INSTRUCTION

5110	Aquatic Instruction
5111	Diving
5112	Lifesaving
5113	Swimming
5114	Water games
5120	Dance and Rythms Instruction
5121	Folk dance
5122	Modern
5123	Social
5125	Square
5126	Rythm activities
5130	Group Games Instruction
5131	Classroom games
5132	Gymnasium contests
5133	Relay games
5140	Individual Sports Instruction
5141	Archery
5142	Bowling
5143	Boxing
5144	Fencing
5145	Golf
5146	Gymnastics
5147	Tennis
5148	Track and Field
5149	Wrestling
5150	Outdoor Recreation
5151	Camping
5152	Fishing
5153	Ice Skating
5154	Small crafts
5160	Team Sports Instruction
5161	Baseball, softball
5162	Basketball
5163	Football
5164	Hockey
5165	Kickball
5166	Lacrosse
2167	Soccer
5168	Volleyball
5170	Intramurals
5180	Trips, Demonstrations
5190	Experimental Concepts/Courses

PHYSICAL CONDITIONING

5210	Exercises
5211	Conditioning exercises
5212	Coordinating exercises
5213	Isometrics
5214	Isotonics
5215	Posture
5220	Individual Activities
5221	Apparatus
5222	Tumbling
5223	Weight lifting
5230	Testing
5231	Group fitness testing
5232	Self-testing
5233	Station drills
5240	Exercises for the Handicapped
5250	Selection, Use of Playground Equipment
5260	Military Drills
5280	Trips, Demonstrations
5290	Experimental Concepts/Courses

HEALTH AND SAFETY EDUCATION

5310	Personal Health Care
5311	Dental health
5312	First aid
5313	Mental health
5314	Personal hygiene
5315	Physical fitness
2844	Sex education
5320	Harmful Substances Instruction
5321	Alcohol
5322	Chemicals
5323	Narcotics
5324	Poisons
5325	Tobacco
5330	Safety Education
5331	Civil defense
5332	Firearms
5333	Fire safety
5334	Safety in the home
5335	Traffic safety
5336	Water safety

5340	**Driver Education**
5341	Classroom instruction
5342	Driving skills (behind wheel)
5343	Simulators
5344	Traffic laws and enforcement
5380	**Tours, Demonstrations**
5390	**Experimental Concepts/Courses**

SPECIAL EDUCATION

5410	**Exceptional Children**
5411	Auditory handicaps
54111	Deaf
54112	Hard of Hearing
5412	Emotionally disturbed
5413	Mentally retarded
5414	Physically handicapped
5415	Slow learner
5416	Speech correction
5417	Visually handicapped
54171	Blind
54172	Eye-motor coordination
5520	**Specialized Programs**
5521	Delinquent or dropouts
5522	Disadvantaged youth
5523	Follow Through
5524	Head Start
5525	Migrants, transient
5526	Outward bound
5527	Pre-school training
5528	Upward bound
5530	**Interpersonal Skills**
5531	Self-concept
5532	Social development
5533	Vocational preparation
5580	**Tours, Demonstrations**
5590	**Experimental Concepts/Courses**

INSTRUCTIONAL CONCEPTS AND TECHNIQUES

Curriculum, Guidance and Counseling, Instructional Materials and Evaluation

CURRICULUM

6110	**Learning Theory**
6120	**Curriculum Building**
6121	Co-curricular activities
6122	Humanities
6123	Language arts
6124	Mathematics
6125	Natural sciences
6126	Physical education
6127	Social sciences
6128	Special education
6129	Vocational training
6130	**Planning and Evaluation**
6131	Curriculum planning
6132	Curriculum review
6133	Evaluation of change
6134	Financial projections
6135	Implementing educational change
6140	**Curriculum Laboratory**
6150	**Extra-time Instruction**
6151	After School Hours
6152	Extended school year
61521	Summer school
61522	Tri-semester
61523	Quarter
6153	Shared-time
6154	Tutorial programs
6160	**Enrichment Programs**

GUIDANCE AND COUNSELING

6210	**Testing**
6211	Achievement, basic skills
6212	Aptitude, mental ability
6213	Attitudinal
6214	Vocational, occupational
6220	**Grouping**
6221	By ability
6222	By achievement
6223	By age
6224	By sex
6225	Heterogeneous, cross grouping
6226	Homogeneous
6227	Honors, gifted students
6230	**Counseling Programs**
6231	Academic
6232	Adult
6233	College-bound
6234	Dropouts
6235	Non-college bound
6236	Personal
6237	Scheduling

INSTRUCTIONAL MATERIALS AND EVALUATION

6310	**Conventional Media Assisted Instruction**
6311	Community resources
6312	Disc and tape recordings
6313	Display boards
6314	Films and film strips
6315	Models
6316	Overhead transparencies
6317	Pamphlets
	(Programmed instruction-see methodology)
6320	**Newer Media Assisted Instruction**
6321	Academic games
6322	Computer assisted instruction
6323	Dial-access information retrieval
6324	Individually prescribed instruction (I.P.I.)
6325	Television
6330	**Student Evaluation Techniques**
6331	Descriptive comments
6332	Non-graded class
6333	Non-graded school
6334	Pass-fail
6335	Traditional

ADMINISTRATIVE POLICIES

Community Relations, Faculty and Staff Relations, Student Relations, Training Techniques and Programs

COMMUNITY RELATIONS

- 7110 Public Relations
  - 7111 Citizen groups
  - 7112 Mass media
  - 7113 Parents

- 7120 Lay Community Relations
  - 7121 Booster clubs
  - 7122 Community agencies
  - 7123 Community use of school
  - 7124 Decentralization of schools
  - 7125 Lay advisory groups
  - 7126 P.T.A.

- 7130 Levy and Bond Campaigns

- 7140 School Integration
  - 7141 Busing
  - 7142 Campus schools
  - 7143 Cluster schools
  - 7144 Open enrollment, free choice
  - 7145 Specialized school curriculum

FACULTY AND STAFF RELATIONS

- 7210 Faculty Goverance

- 7220 Assignments, Staffing
  - 7221 Department Heads
  - 7222 Differential staffing
  - 7223 Supervisory Personnel

- 7230 Personnel Policies
  - 7231 Co-curricular assignment
  - 7232 Leave policy
  - 7233 Released time
  - 7234 Sabbatical
  - 7235 Substitute teachers

- 7240 Salary and Negotiations
  - 7241 Extra-pay
  - 7242 Fringe Benefits
  - 7243 Negotiations policy
  - 7244 Salary scheduling

- 7250 Personnel Recruitment and Evaluation

- 7260 Educational Aides
  - 7261 Clerical
  - 7262 Quasi-Instructional
  - 7263 Technical

STUDENT RELATIONS

- 7310 Student Organizations
  - 7311 Academic clubs
  - 7312 Athletic clubs
  - 7313 Musical clubs
  - 7314 School and public service
  - 7315 Social clubs
  - 7316 Student government

- 7320 Student Activities
  - 7321 Exchanges
  - 7322 Handbooks
  - 7323 Newspapers
  - 7324 Trips
  - 7325 Yearbook

- 7330 Student Behavior
  - 7331 Discipline
  - 7332 Dress code
  - 7333 Ethnic, racial unrest
  - 7334 Pre and post school hours

- 7340 Student Records (traditional)
  - 7341 Attendance
  - 7342 Personnel records
  - 7343 Report cards

- 7350 Student Records (Data Processing)
  - 7351 Attendance
  - 7352 Machine graded examinations
  - 7353 Personnel records
  - 7354 Report cards

- 7360 Scheduling (traditional)
  - 7361 Block time schedule
  - 7362 Class assignment
  - 7363 Diagional schedule
  - 7364 Flexible schedule
  - 7365 Modular schedule

- 7370 Scheduling (Data Processing)
  - 7371 Block time schedule
  - 7372 Class assignment
  - 7373 Diagional schedule
  - 7374 Flexible schedule
  - 7375 Modular schedule

TRAINING TECHNIQUES AND PROGRAMS

- 7410 In-Service Training
  - 7411 Interaction analysis
  - 7412 Micro-teaching
  - 7413 Non-verbal communication
  - 7414 Sensitivity training
  - 7415 Teaching techniques

- 7420 Meetings, Projects
  - 7421 Conferences
  - 7422 Research projects
  - 7423 School visitations
  - 7424 Staff meetings
  - 7425 Workshops

- 7430 Training Programs
  - 7431 Administrative personnel
  - 7432 Educational aides
  - 7433 Intern-extern
  - 7434 New teacher
  - 7435 Pupil as teacher, monitor
  - 7436 Special Education personnel
  - 7437 University student teacher

ADMINISTRATIVE FUNCTIONS

Buildings and Supplies, School Finance and Law

BUILDINGS AND SUPPLIES

8110	Building Plans
8111	Architect selection
8112	Campus plan
8113	Cluster schools
8114	Instructional pods
8115	Open school
8116	School-within-a-school
8117	Site selection
8120	Physical Plant Maintenance
8130	Private School Use of Equipment
8140	Purchase, Rental of Equipment
8141	Audio-visual
8142	Classroom supplies
8143	Data processing
8144	Textbooks
8150	Room Design and Construction
8151	Athletic facilities
8152	Auditorium, theatre
8153	Cafeteria
8154	General classroom
8155	Library, instructional material center
8156	Media and AV instruction facilities
8157	Music facilities
8158	Remodeling, additions
8159	Science facilities
8160	Vocational Facilities Design and Construction

SCHOOL FINANCE AND LAW

8210	Financial Resources
8211	Federal programs
8212	Financial analysis
8313	Foundation program
8220	Accounts and Investments
8221	Athletic funds
8222	Bond sales
8223	Insurance, Annuities
8224	Payroll deductions
8225	Student money accounts
8226	Use of Data Processing
8230	School Law

GRADE, METHOD, REGION DESIGNATORS

The four or five digit CODE NUMBER is the subject indentication. Three additional distinctions are possible–the separation of referrals by grade level, methodology, and geographical region. If you use one of the CODE LETTERS listed below the referrals will be limited to that category–if you do not use one of the letters you will receive all the references for your subject. (See the inside cover example instructions where the referrals were limited to high school grades and those in Ohio, but were not limited to any particular methodology.)

GRADE LEVEL

A. Pre-school
B. K-3
C. 4-6
D. 7-8
E. Middle School
F. High School
G. K-12
H. Dropout
I. Post-high, College
J. Adult

METHODOLOGY

A. Discussion
B. Independent study
C. Lecture
D. Media instruction
E. Program evaluation
F. Programmed instruction
G. Research design
H. Simulation, gaming
I. Team teaching

REGION

A. Ohio
B. Indiana
C. Kentucky
D. Michigan
E. Pennsylvania
F. West Virginia
G. Eastern U.S.
H. North Central U.S.
I. Southern U.S.
J. Western U.S.

First Printing
ARIS Code, 1969

Type or print

Personnel Card

ARIS

OHIO EDUCATION ASSOCIATION
225 EAST BROAD STREET
COLUMBUS, OHIO 43215
PHONE: (614) 228-4526

Name: Dr. Mr. Mrs. Miss ______ first ______ last

Institutional Affiliation: ______ employer

Title: ______ Phone: (area) ___-___

Address: ______ no. and street ______ city ______ state ______ zip

Description of official responsibilities and major interests:

Describe relevant training, experience and projects:

List any major publications:

Describe previous consultanting activities and list references:

List your resource speciality from the OEA ARIS code.

Code DESCRIPTOR title	Code NUMBER 4 or 5 digit	Grade level LETTER	Methodology LETTER	Region LETTER	Date entered

List any other specialities from the OEA ARIS code.

Use separate card form for each entry

Type or print

Program Card

ARIS

OHIO EDUCATION ASSOCIATION
225 EAST BROAD STREET
COLUMBUS, OHIO 43215
PHONE: (614) 228-4526

Title of program, project: ______

Name of district, agency, organization: ______

Address: ______ no. and street ______ city ______ state ______ zip Phone: (area) ___-___

Name of contact person: ______

Title: ______

Date project implemented: ______

Project is:
- ☐ pilot project, or
- ☐ trial run, or
- ☐ partially implemented, or
- ☐ fully implemented.

Check those involved in the planning for this program:
- ☐ Department head,
- ☐ Principal,
- ☐ Others ______
- ☐ Students,
- ☐ Superintendent,
- ☐ Supervisor,
- ☐ Teachers,

Approximate annual cost per pupil involved: $ ______

List special equipment needed: ______

Check source(s) of funding: ☐ local district, ☐ state ☐ federal, ☐ private

DESCRIPTION OF PROGRAM

Briefly describe this program: ______

What is most significant about this program? ______

Report any evaluative results: ______

List your program using the OEA ARIS code.

Code DESCRIPTOR title	Code NUMBER 4 or 5 digit	Grade level LETTER	Methodology LETTER	Region LETTER	Date entered

Use separate card form for each entry

Place this form in an envelope and mail to:

ARIS
OHIO EDUCATION ASSOCIATION
225 EAST BROAD STREET
COLUMBUS, OHIO 43215

Place this form in an envelope and mail to:

ARIS
OHIO EDUCATION ASSOCIATION
225 EAST BROAD STREET
COLUMBUS, OHIO 43215

APPENDIX C

MOREL

MICHIGAN-OHIO REGIONAL
EDUCATIONAL LABORATORY
3750 WOODWARD AVENUE ▪ DETROIT, MICHIGAN 48201 ▪ (313) 833-1320

The Michigan-Ohio Regional Educational Laboratory is a federally funded, independent, non-profit corporation designed to improve educational practice. As one part of its total program, MOREL is developing an Educational Resource Bank designed to link the resources of the region to the needs. Brief descriptive statements on the MOREL Resource Bank are enclosed.

We are contacting you at this time because you have been recommended as an educational resource which would be of value as an inclusion in the Resource Bank. We hope you will wish to complete the accompanying personnel data form and in so doing, assist us in developing an effective and much needed educational tool. It is significant to keep in mind that many requests will come forth for consultant and examples of exemplary programs. Your assistance in the identification of other people and programs for incorporation would also be greatly appreciated.

Your inclusion in the Resource Bank is completely voluntary. The only obligation that you incur is that of being open to requests for assistance. The specific circumstances, conditions and rates of pay under which the assistance is provided is a matter of your choice and individual agreement with the requesting party. Through inclusion in the Resource Bank, you may be substantially assisting your fellow educators as well as your own professional background. Directions for completion of the data form are indicated on the form itself and in the accompanying green Resource Bank Coding Scheme.

We sincerely hope that you choose to complete and return the data form. If you have any questions, please contact Charles Kromer or George Grimes at MOREL. Thank you for assisting us.

Sincerely yours,

Charles J. Kromer

CJK:ja
Enclosures

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MORE L

MICHIGAN-OHIO REGIONAL
EDUCATIONAL LABORATORY
3750 WOODWARD AVENUE • DETROIT, MICHIGAN 48201 • (313) 833-1320

Subject:

The Michigan-Ohio Regional Educational Laboratory is a federally funded, independent, non-profit corporation designed to improve educational practice. As one part of its total program, MOREL is developing an Educational Resource Bank designed to link the resources of the region to the needs. Brief descriptive statements of the Laboratory program and the MOREL Resource Bank are enclosed.

We are contacting you at this time because you are involved in a program which has been recommended as a valuable inclusion in our Resource Bank. By filling out the enclosed Project and Agency Data Forms, you will be giving us the basic information concerning your program which can then be given to others who indicate an interest. Thus, by becoming a part of the Resource Bank, we will be able to assist you in the area of dissemination.

For example, let us assume a school in Ohio is interested in developing an Independent Study Program in their middle school. They call or write MOREL asking for assistance. Through the Resource Bank, we should be able to give them the locations of those places which have Independent Study Programs in operation as well as specific resource people who may be able to assist their staff.

It will be the intent of the Resource Bank to link together those who wish assistance with those who can give the help. Important to keep in mind is the fact that many requests will come forth for consultant and examples of exemplary programs. Your assistance in the identification of other people and programs for incorporation would also be greatly appreciated.

We sincerely hope that you choose to complete and return the data form. If you have any questions, please contact Charles Kromer or George Grimes at MOREL.

Thank you for assisting us.

Sincerely yours,

Charles J. Kromer

CJK:bmb

Enclosures

oea
THE OHIO EDUCATION ASSOCIATION
225 East Broad Street, Columbus, Ohio 43215/228-4526

APPENDIX D

REQUIRES IMMEDIATE ATTENTION

January, 1969

MEMORANDUM

TO: Participants of MOREL Resource Bank

FROM: Byron H. Marlowe, Coordinator, ARIS

RE: Request listing in Association Referral Information Service (ARIS)

The OEA will operate a referral information service. This service is based on the prototype of the Michigan-Ohio Regional Educational Laboratory (MOREL) information system. We will provide the names of resource personnel, locations of innovative or exemplary programs, and references to books and journal articles to educators in order to facilitate the improvement of instruction and administration of our schools.

We need your assistance in order to build our bank of personnel and program references. Review the enclosed code sheet to identify all of the listings for which you or your colleagues possess expertise. List each person as a referral for each of these subjects. Circulate the additional copies to members of your staff and colleagues--encourage them to participate.

We anticipate that every district in Ohio will have at least one program or personnel listing. Indeed, we hope to have multiple listings from every district and university. Review your program of instruction and administration. Identify everyone in your system who has shown leadership in program development or possessing special expertise. In addition, list those programs worthy of being viewed by other teachers, supervisors, and/or administrators. We seek the listing of every program worth showing to others, everyone capable of consulting, assisting in the planning, implementation, and/or evaluation of programs.

The subject listings are designed to be specific enough to assist educators with the revision and improvement in any course or any major sub-section. This allows you to enter specialized personnel or programs as referrals. This should be of particular importance for the user needing assistance in a section of a course or for some administrative responsibility. For example, many social science teachers would use assistance on only sections of their courses--civil liberties, negro history, etc.

ARIS, with your cooperation, will have sufficient referrals to be operational February 17. ARIS is a major undertaking--capable of offering a much needed service to Ohio educators and facilitating a major improvement in instruction and administration. We hope you see this same potential and will share with Ohio educators your personnel and programs.

For further information about code sheets or listing cards, call us at (614) 228-4526.

Appendix E

Suggested Materials for a Basic Referral Library Collection

The following is a comprehensive listing of a basic materials collection necessary for a Referral Library operation as described in Chapter 2. The list is divided into items essential for referral operations, and items desirable if funds permit. It should be noted that a library offering traditional reference services would need a considerably larger collection. It is, therefore, advantageous for such a Referral Library to be located physically close to a large research library.

In this listing, U.S. government documents are listed separately unless they fit into another category (indexes, magazines, etc.). The latter have been placed in the appropriate category and noted "(GPO)." Many indexes published by the H. W. Wilson Co. are sold on a "service basis" which computes a unique subscription price for each library. The H. W. Wilson Co. should be contacted about indexes noted "(price arranged)." Many valuable newsletters published by the regional educational laboratories, research and development centers, and ERIC clearinghouses, are not listed here. The addresses of these organizations are available in the *Standard Education Almanac* (annual; Academic Media, Los Angeles; $12.95).

An approximate price for the remaining items (or one year's subscription in the case of serials) is supplied to aid in estimating cost, but for current prices and other order information, the following resources should be consulted:

RESOURCE	USED TO LOCATE
Books in Print. (2 vol., annual) R. R. Bowker Co., 1180 Avenue of the Americas, New York, N. Y. 10036 ($21.85).	books (commercially published)
Educational Resources Information Center, Bureau of Research, U.S. Office of Education, Washington, D. C. 20202.	ERIC materials
Irregular Serials and Annuals. (1st edition, 1967) R. R. Bowker Co., 1180 Avenue of the Americas, New York, N. Y. 10036 ($25.25).	annuals serials (irregular)
Monthly Catalog of U.S. Government Documents. Government Printing Office, Washington, D. C. 20402 ($6.00/yr.).	U.S. government documents
National Directory of Newsletters and Reporting Services. (1st edition, 1966) Gale Research Co., 1400 Book Tower, Detroit Mich. 48226 ($20.00).	newsletters services
Scholarly Books in America. (quarterly) Association of American University Presses, Room 802, 1 Park Avenue, New York, N. Y. 10016 ($1.95/yr.).	
Ulrich's International Periodicals Directory. (2 vol., 12 edition, 1968) R. R. Bowker Co., 1180 Avenue of the Americas, New York, N. Y. 10036 ($30.00 plus supplements).	serials (regular)
Winchell, Constance. *Guide to Reference Books.* (8th edition) American Library Association, 50 East Huron Street, Chicago, Ill. 60611 ($15.00 plus supplements).	reference works

Essential Materials

REFERENCE BOOKS

American Universities & Colleges. $22.00
Books in Print (2 vol.). $21.85
Columbia Encyclopedia (3rd ed.). $49.50
Computer Assisted Instruction Guide. $10.00
Dictionary of Education. $11.95
Directory of Special Libraries and Information Centers. $28.50
Encyclopedia of Associations (Gale). $29.50
Encyclopedia of Educational Research. $27.50
Foundations Directory. $12.00
Guide to Reference Books (Winchell, 8th ed.). $15.00
(supplement). $3.50
Information Please Almanac. $1.65
Irregular Serials and Annuals. $25.25
Lovejoy's College Guide. $3.95
National Directory of Newsletters and Reporting Services. $20.00
National Register of Educational Researchers (Phi Delta Kappan). $20.00
NEA Handbook. $2.00
Programmed Instruction Guide (ENTELEK). $14.50
Research Centers Directory. $39.50
Resources in Educational Research. $6.95
Standard Education Almanac. $12.95
Statesman's Yearbook. $12.50

Subject Guide to Books in Print. $19.25
Ulrich's International Periodicals Directory (12th ed.). $30.00
Webster's Third New International Dictionary. $47.50
World Almanac. $1.75
World of Learning. $25.50

U.S. GOVERNMENT DOCUMENTS

Budget in Brief. $.50
Census of the Population, U.S. Summary (1960). $7.00
Compendium of Federal Education Laws.
Congressional Directory. $3.50
Digest of Educational Statistics. $1.25
Directory of Federal Statistics for Local Areas. $1.00
Directory of Information Resources in the U.S. (4 vol.). $8.00
Education Directory (4 vol.). $6.00
Federal Statistical Directory. $1.00
Health, Education & Welfare Trends. $1.25
Popular Names of U.S. Government Reports. $.30
Projections of Educational Statistics to 1976-77. $1.00
Statistical Abstract of the United States. $4.75
Statistical Services of the U.S. Government. $1.00
Statistics of State School Systems. $.75
U.S. Government Organization Manual. $2.00

SERVICES

College and University Reporter. $455.00
Congressional Quarterly Weekly Report. $120.00
Guide to Federal Assistance for Education. $265.00

INDEXES

Abstracts of Computer Literature (Burrows). free
Abstracts of Instructional Materials for Vocational and Technical Education (ERIC). free
Abstracts of Research Materials for Vocational and Technical Education (ERIC). free
American Book Publishing Record (Bowker). $40.00
Bibliographic Index (Wilson). (price arranged)
Book Review Index (Gale). $39.00
British Education Index. $20.00
Business Education Index. $2.00
Child Development Abstracts & Bibliography. $12.00
Cumulative Book Index. $48.00
Documentation Abstracts.
Education Index (Wilson). (price arranged)
Educational Administration Abstracts. $10.00
Forthcoming Books and Subject Guide to Forthcoming Books. $23.00
Index to Periodical Articles by and about Negroes. $12.00
Library Literature. (price arranged)
Masters' Abstracts. $6.00
Monthly Catalog of U.S. Government Documents (GPO). $6.00
Monthly Checklist of State Publications (GPO). $3.00
New York Times Index. $125.00
Paperbound Books in Print. $23.00
Poverty and Human Resources Abstracts. $40.00
Psychological Abstracts. $30.00
Public Affairs Information Service Bulletin. $100.00
Reader's Guide to Periodical Literature (Wilson). $28.00
Research Grants Index (GPO). $10.00
Scholarly Books in America. $1.95
Social Science & Humanities Index. (price arranged)
Sociology Abstracts. $100.00
State Education Journal Index. $20.00

ERIC

ERIC Microfiche Document Collections:
  Disadvantaged. $230.00
  Higher Education. $115.00
  Pacesetters (annual since 1966). $100.00/yr.
  Manpower (serial). $100.00
  Cooperative Research Reports, 1956-65. $280.00
  Research in Education (monthly). $1,000.00/yr.
ERIC Document Indexes:
  Research in Education (monthly). $21.00
  KWIC Index to the Disadvantaged (Detroit Public Schools). $15.00
  Pacesetters in Innovation (annual since 1966). $2.50
  Research Reports, 1956-65 (2 vol.). $3.75
  Manpower Research Inventory, 1966-67. $2.75
  Thesaurus of ERIC Descriptors (& supplements). $4.50

MAGAZINES AND JOURNALS

American Documentation. $18.50
American Education (GPO). $3.75
American Educational Research Journal. $6.00
Audiovisual Instruction. $6.00
Child Development. $20.00
Childhood Education. $6.00
Children. $1.25
Comparative Education Review. $5.00
Education. $5.50
Education Digest. $5.00
Educational Forum. $5.00
Educational Leadership. $5.50
Educational Products Report (EPIE). $35.00
Educational Theory. $6.00
Elementary School Journal. $6.00
Exceptional Children. $7.00
Harvard Educational Review. $6.00
Journal of Educational Measurement. $7.00
Journal of Educational Psychology. $10.00
Journal of Negro Education. $5.00
Journal of Research and Development in Education. $7.00
Journal of Secondary Education. $5.00
Journal of Teacher Education. $5.00

National Elementary Principal (with membership in Dept. of Elementary School Principals, NEA). $15.00
Nation's Schools. $25.00
NEA Research Bulletin. $2.00
Newsweek. $9.00
Phi Delta Kappan. $5.00
Saturday Review. $8.00
School and Society. $8.75
School Management. $8.00
Theory into Practice. $3.75
Today's Education (NEA Journal) (with NEA membership). $10.00
Urban Education. $5.00
Welfare in Review (GPO). $1.75

NEWSLETTERS

ASCD News Exchange
Cincinnati School Foundation Newsletter. free
Consumer Price Index (national and Detroit). free
Economic Indicators (GPO).
Education News. $10.00
Education Recaps. $3.00
Education USA (NEA). $15.00
Educational Researcher (AERA, NEA). $3.00
NASSP Spotlight (NEA). $2.00
News, Notes and Quotes (PDK). $.50
PACE Report (U. Ky.). free

NEWSPAPERS

Christian Science Monitor. $6.00
New York Times (Sunday edition). $36.00
Wall Street Journal. $25.00

Desirable Materials

REFERENCE BOOKS

Annual Review of Information Service and Technology. $15.00
Audiovisual Equipment Directory. $6.00
Dewey Decimal Classification (17th). $30.00
Dictionary of Foreign Phrases and Abbreviations. $6.00
Familiar Quotations (Bartlett). $15.00
Guide to American Directories. $25.00
Guide to American Educational Directories. $22.50
Handbook of Everyday Law. $6.50
International Handbook of Universities. $16.00
Lovejoy's Guide to Preparatory Schools. $2.95
National Directory of Employment Services. $25.00
Pocket Data Book (biennial, GPO).
Political Handbook and Atlas of the World. $8.50
Popular Guide to Government Publications. $12.00
Subject Headings of the Library of Congress. $15.00
Teachers' Library — How to Organize It. $1.50

SERVICES

Croft Educators Service. (price varies; contact Croft Educational Services, New London, Connecticut)
Automated Education Handbook (Automated Education Center, Detroit Public Schools). $18.00

INDEXES

Applied Science & Technology Index. (price arranged)
Art Index (Wilson). (price arranged)
Bibliographic Survey: The Negro in Print. $7.25
Biological and Agricultural Index. (price arranged)
British Humanities Index. (252 shillings)
Bureau of the Census Catalog (GPO). $2.25
Business Periodicals Index. (price arranged)
Guide to Microforms in Print. $4.00
Index Medicus (GPO). $60.00
Index to Book Reviews in the Humanities. $12.75
Index to Legal Periodicals. (price arranged)
Library and Information Science Abstracts. $10.00
Subject Guide to Children's Magazines. $7.50
Vertical File Index. $8.00

MAGAZINES AND JOURNALS

ALA Bulletin. $6.00
American School & University. $8.00
American School Board Journal. $4.50
American Teacher. $5.00
A-V Communication Review. $6.00
British Journal of Educational Studies. $4.00
Canadian Education and Research Digest. $3.00
Catholic Educational Review. $5.00
Daedalus. $6.50
Educational Administration Quarterly. $5.00
Educational Broadcasting Review. $6.00
Educational Research (British). (23 shillings)
Educational Technology. $10.00
Grade Teacher. $5.50
Harper's. $8.50
History of Education Quarterly. $8.00
International Journal of Religious Education. $5.00
Library Resources and Technical Services. $5.00
North Central Association Quarterly. $4.00
Psychological Review. $10.00
Quarterly Journal of the Library of Congress. $2.50
School Review. $8.00
Social Education. $6.00
Sociology of Education. $7.00
Teachers College Record. $7.50
U.S. News and World Report. $10.00
Wilson Library Bulletin. $5.00

NEWSLETTERS

Administrator's Notebook. $2.00
Carnegie Quarterly. free
Echo. $4.00
Education Abstracts. $5.00
ERC Reports. free
Headstart Newsletter (OEO). free
IAR Research Bulletin. $2.00
Newsletter (School of Education, Ohio State Univ.). free
Newsletter (Joint Council on Economic Education). free
TEPS Newsletter (NEA) free
Times (London) Educational Supplement. $10.00

NEWSPAPERS

National Observer. $10.00
New York Times (& back issues on microfilm).
Times (London). $80.00
Washington Post. $54.00

APPENDIX F
SAMPLE NUMERIC SUBCLASSIFICATION SYSTEM

007	Orientation (first day, new teacher)
008	Curriculum materials (general) issued by state agencies; commercial
009	Curriculum materials (general) issued by local systems
01	Interdisciplinary programs
02	Libraries (school)
1	Kindergarten
15	Psychology, child development
17	Character education
18	Human and intercultural relations (inc. integration of the schools)
2	Religion
3	Literature (general)
31	American literature
32	English literature
4	General language
42	Language arts (general)
421	Reading
422	Spelling
423	Handwriting
424	Speech
4241	Drama and dramatics
4242	Auditorium
425	Poetry
426	English language composition
4261	Journalism
427	Grammar
428	Linguistics
429	Work-study skills
43	German
44	French
45	Italian
46	Spanish
47	Latin
48	Greek
49	Hebrew
491	Foreign language (general)
5	Science (general)
51	Mathematics
512	Algebra
513	Geometry
52	Astronomy
53	Physics
54	Chemistry
55	Geology
551	Weather
56	Paleontology
57	Biology
571	Physiology
58	Botany
59	Zoology
6	Applied science, technology (general)
6121	Nursing education
613	Hygiene
6131	Dental health
614	Safety education
6141	Driver education
616	Alcohol and narcotics
617	Home and family living
62	Vocational education (general)
621	Machine shop & home mechanics
6211	Woodworking
622	Welding
623	Electricity
6231	Radio mechanics
624	Metalworking
625	Graphic art (printing)
626	Watchmaking
627	Automotive mechanics
628	Aviation mechanics & education; space travel & aeronautics
63	Agriculture
632	Conservation of resources
635	Gardening
64	Home economics
641	Nutrition
645	Housing
646	Clothing
65	Business education (general)
651	Office practice (business machines)
652	Typing
653	Shorthand
654	Business law
655	Business English
656	Business math
657	Bookkeeping
658	Business organization & management
659	Distributive education
6591	Advertising

6592	Selling and salesmanship
6593	Retailing and marketing
67	Guidance
671	Vocational guidance
69	Special education (general), including disadvantaged
691	Speech correction
692	Blind
693	Deaf
694	Crippled
695	Mentally retarded
697	Delinquent
698	Foreign born
7	Art (general)
72	Architecture
73	Sculpture
74	Arts & crafts
743	Architectural drafting
744	Mechanical drawing
75	Painting
77	Photography
78	Music
79	Physical education (general)
791	Health education
792	Gymnastics
793	Games
795	Dance
796	Sports and athletics
799	Camping
8	Social studies (general)
81	Community life (citizenship)
811	Community resources
812	School and community
813	Community workers
83	Civics
84	Economics
85	Law
86	Communication (general)
87	Commerce
88	Transportation
881	Water transportation
882	Land transportation
89	Geography
891	World geography
892	Economic geography
893	Ancient geography
896	Africa
897	Mexico
898	South America
9	History (general)
91	World history
93	Ancient history
94	European history
95	Asian history
96	African history
97	North American history
971	Indians of North America
973	U.S. history
973N	American Negro history
9731	Discovery and exploration
9732	Colonial period
9733	Revolutionary War
9737	Civil War
9739	20th century
9774	Michigan history
98	Latin American history

APPENDIX G
KEYWORD-IN-CONTEXT (KWIC) LISTINGS

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    YEAR ALGEBRA IN THE FOUR FUNDAMENTAL PROCESSES OF ADDITI  BUCKGE30NFP
NT PREFERENCE SURVEY OF FOUR MAJOR SUBJECTS.=           STUDE  ANCEGA60SPS
   OF RESPONSES MADE IN FOUR NARROW MENTAL FUNCTIONS INVOLVE  HAYEMC27ARM
       EFFECTIVENESS OF FOUR TECHNIQUES OF PROGRAMMING THE    BELCFP62PLR
    PRESENTED IN GRADES FOUR THROUGH EIGHT ARE LEAST UNDERST  JONEGL62SOW
     ARITHMETIC, GRADES FOUR TO SEVEN INCLUSIVE.= A COURSE    LAGRCW37SMT
HE GENERAL EDUCATION OF FOUR YEAR COLLEGE STUDENTS.=  + IN T  CHERRJ55MGE
 MATHEMATICS COURSES IN FOUR YEAR COLLEGES.=  AN ANALYSIS OF  KLEIAE54AMC
 MATHEMATICS COURSES IN FOUR YEAR COLLEGES.=  AN ANALYSIS OF  READCB55AMC
ION OF SMSG TEXT--GRADE FOUR.=                       EVALUAT  RE003963EST
ABULARY TEST FOR GRADES FOUR, FIVE, AND SIX.=+ARITHMETIC VOC  LAWSJH59CRA
  ARITHMETIC FOR GRADES FOUR, FIVE, AND SIX, USING THE UNIVE  STRECR52SVG
C ACHIEVEMENT IN GRADES FOUR, SIX, AND EIGHT.=+ OF ARITHMETI  RUSCCE57AAA
         ASPECTS OF THE FOURTH ANNUAL SCIENCE TALENT SEARCH.  EDGEHA47TAF
ON PUPIL ACHIEVEMENT IN FOURTH GRADE ARITHMETIC AND READING.  ANCEPS55ETA
ACADEMIC ACHIEVEMENT OF FOURTH GRADE CHILDREN.=   + AND THE   MCGOE 61ARA
EARNING AND TEACHING OF FOURTH GRADE MATHEMATICS.=+ IN THE L  MACYM 56EPM
RENCES IN ARITHMETIC OF FOURTH GRADE PUPILS.=        + DIFFE  WALLMT60IOA
     SOLVING ABILITY OF FOURTH GRADE PUPILS, DUNN AVENUE      SANDJF60RIH
F A SELE+A STUDY OF 329 FOURTH GRADE PUPILS' UNDERSTANDING O  FOREHB55SFP
RITHMETIC LEARNING IN A FOURTH GRADE.=     + EXPERIENCE IN A  HARCLW44ECD
TIC FOR CHILDREN IN THE FOURTH GRADE.=  + PROGRAM IN ARITHME  HUCSFH57SER
                    THE FOURTH MENTAL MEASUREMENTS YEARBOOK.  YB0C1053FMM
 TEACHERS IN THE THIRD, FOURTH, AND SIXTH GRADES.=     + AND  STRIVM60SAT
REN'S + STUDY OF THIRD, FOURTH, FIFTH, AND SIXTH GRADE CHILD  HILLEH52STF
  MADE IN ARITHMETIC BY FOURTH, FIFTH, AND SIXTH GRADE PUPIL  CARTWM51SEM
DREN.=                  FRACTION CONCEPTS HELD BY YOUNG CHIL  GUNCAG57FCH
          DIVISION BY A FRACTION MADE MEANINGFUL.=            CHRIHC48DFM
    THE USE OF RATIO OR FRACTIONAL THINKING TO EXPLORE COLLE  SILVIM58URF
F LEARNING IN BEGINNING FRACTIONS AND MIXED NUMBERS.=    + O  EDWAAU32IEC
  THE BASIC CONCEPTS IN FRACTIONS AND THEIR APPLICATION IN    SEBCMT47LBC
                        FRACTIONS ARE RATIOS, TOO.=           TRIMHC49FAR
              OF COMMON FRACTIONS AS PRESENTED IN NINE SERIE  ECKEE 48AIP
EVEMENT IN THE STUDY OF FRACTIONS AT THE SIXTH GRADE LEVEL.=  AFTROB54ESA
 PUPILS+DIFFICULTIES IN FRACTIONS ENCOUNTERED BY NINTH GRADE  GUILWS45DFE
    TREATMENT OF VULGAR FRACTIONS IN AMERICAN ARITHMETICS     JONEEK57HSD
  CHILDREN'S CONCEPT OF FRACTIONS IN GRADES FIVE AND SIX OF   HOWACF48TMD
HE REMEDIAL TEACHING OF FRACTIONS IN THE SECONDARY SCHOOL.=   ERDMJC56RTF
           WITH DECIMAL FRACTIONS IN THE SEQUENCE OF NUMBER   FAIRDM62CDF
   STUDY IN DIVISION OF FRACTIONS IN WHICH AN EXPLANATION     SLUST 62CSD
   IN MULTIPLICATION OF FRACTIONS WHEN COMPARED WITH THE      TRIPLE62IOW
CONCEPTS IN DIVISION OF FRACTIONS WITH AUTO INSTRUCTION.=     LELAAD62ETC
NOMINATOR + DIVISION OF FRACTIONS.= A STUDY OF THE COMMON DE  CAPPLR62DFS
            DIVISION OF FRACTIONS.=                           CAPPLR62DF
  DECIMAL VERSUS COMMON FRACTIONS.=                           JOHNJT56DVC
     YOUNG CHILDREN AND FRACTIONS.=                           POLKAR35YCF
GRADE CHILDREN DISCOVER FRACTIONS.=                    FIFTH  MULHV 54FGC
 DECIMALS VERSUS COMMON FRACTIONS.=                  CASE OF  JOHNJT46CDC
ALE FOR THE TEACHING OF FRACTIONS.=             A NEW RATION  RIESAP55NRT
HE SKILL OF DIVISION OF FRACTIONS.=           RETENTION OF T  STEPL 59RSD
UPILS' ERRORS IN COMMON FRACTIONS.=         CASE STUDIES OF P  SEARAH28CSP
ELATING TO INTEGERS AND FRACTIONS.=        + AND OPERATIONS R  LAZAN 49OTC
UNDERSTANDING OF COMMON FRACTIONS.=        + AND TESTING THE  STEEDC40TTU
 AND THE SUBTRACTION OF FRACTIONS.=        + CONCEPT OF SCALE  SCOTL 62CCS
TION AND SUBTRACTION OF FRACTIONS.=       + TO TEACHING ADDI  MCKALD56PAT
IN TEACHING DIVISION OF FRACTIONS.=       + INVERSION METHOD  CAPPLR60CCD
EVEMENT IN THE STUDY OF FRACTIONS.=       + OF ERRORS ON ACHI  AFTROB56BDC
OF DIVISION WITH COMMON FRACTIONS.=       + TO THE OPERATION  ALKIER49ESV
--DECIMAL VERSUS VULGAR FRACTIONS.=      HISTORICAL CONFLICT  JONEE 60HCD
D SUBTRACTION OF SIMPLE FRACTIONS.=      + IN THE ADDITION AN  SEBCMT47LBC
 ADDING AND SUBTRACTING FRACTIONS.=      + OF INDEPENDENCE IN  LANKFG56DIA
UPILS' ERRORS IN COMMON FRACTIONS.=      + OF THE CAUSES OF P  SEARAH27ACP
LL IN MULTIPLICATION OF FRACTIONS.=  + AND THE EFFECT ON SKI  CAPPLR62DFS
THOD IN THE DIVISION OF FRACTIONS.=  + COMMON DENOMINATOR ME  BROOGM54COM
F SUBTRACTION INVOLVING FRACTIONS.=  + ERRORS IN SIX TYPES O  RAMHHK49MAG
NG ON MULTIPLICATION OF FRACTIONS.=  + OF PUPILS WHILE WORKI  HEALIF37SMP
THE NOTATION OF DECIMAL FRACTIONS.= + AND GIVING MEANING TO   MOORKA57CMI
AND KNOWLEDGE OF COMMON FRACTIONS.= + MAJORS' UNDERSTANDING   BREWM 51EEM
OF TEACHING DIVISION OF FRACTIONS.=+ TO COMPARE TWO METHODS   KRICP 62ECT
 BY COLLEGE FRESHMEN IN FRACTIONS.=+DIFFICULTIES ENCOUNTERED  GUILWS45DEC
ADINESS TESTS IN COMMON FRACTIONS.=+EVALUATION OF CERTAIN RE  SOUDHC43CEC
D IN THE COMPUTATION OF FRACTIONS.=+MENTAL FUNCTIONS INVOLVE  HAYEMC27ARM
TRUCTION IN DIVISION OF FRACTIONS.=+MULTISENSORY AIDS IN INS  PRICRD51EEH
CHING MULTIPLICATION OF FRACTIONS.=+OF TWO APPROACHES TO TEA  MILLJW61ECT
STIMULUS IN ADDITION OF FRACTIONS.=+QUANTITY AND QUALITY OF   BROCWG36RBC
             ARE RATIOS FRACTIONS$.=                          JOHNJT48ARF
=                       FRACTIONS--SEVEN YEAR OLDS USE THEM   GUNCE 58FSY
        ARITHMETIC WITH FRAMES.=                              RE005757AWF
OF RURAL SCHOOLS IN THE FRANKLIN COUNTY, VERMONT NORTHWEST    ANDER 43SAA
       ARITHMETIC FOR A FREE SOCIETY.=                        BEATH 47AFS
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S IN TEXAS STATE- +   A FREQUENCY COUNT OF ARITHMETICAL TERM  STILES55FCA
OF DIFFERENT LENGTH AND FREQUENCY IN ARITHMETIC.= + PERIODS   HEUBBP26RED
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          THE COURSE IN FRESHMAN COLLEGE ALGEBRA AT STATE     WILLJL54BMM
D FIVE HOUR SECTIONS OF FRESHMAN ENGLISH.=     + IN THREE AN  WALLDG56CAA
      OF THE CONTENT OF FRESHMAN GENERAL MATHEMATICS COURSES  GALLZT55DAC
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PART OF WESTERN CULTUR+ FRESHMAN MATHEMATICS AS AN INTEGRAL   KLINM 54FMI
               TEACHING FRESHMAN MATHEMATICS BY TELEVISION.=  ELLIHH57TFM
AND GRADE OBTAINED IN A FRESHMAN MATHEMATICS COURSE.=         HARRLG60ATM
 THE EFFECTIVENESS OF A FRESHMAN MATHEMATICS COURSE.=    + OF  AHMAJS59EEF
   CONCEPT FORMATION IN FRESHMAN MATHEMATICS FOR ENGINEERS.=  MORTRE59CFF
           TREATMENT OF FRESHMAN MATHEMATICS IN TEACHERS      SHULCE33PTF
AM AT +  A STUDY OF THE FRESHMAN MATHEMATICS PLACEMENT PROGR  LINSHW55SFM
TER CONTENT FOR COLLEGE FRESHMAN MATHEMATICS.= + SUBJECT MAT  MILLMW61IIS
CTIONAL TIME IN COLLEGE FRESHMAN MATHEMATICS.=+WEEKLY INSTRU  GABEKE55SRE
VEMENT.=                FRESHMAN PROBLEMS AND ACADEMIC ACHIE  SLINGE55FPA
        EXAMINATION FOR FRESHMAN SCIENCE- MATHEMATICS STUDEN  GREMPF60RPV
IC ABILITIES OF COLLEGE FRESHMAN.=                  ARITHMET  DICKJW55AAC
TIC GEOMETRY TO COLLEGE FRESHMAN.=    + TOPICS IN SOLID ANALY  PETTA 59CRE
       IN MATHEMATICS / FRESHMEN AND SENIORS IN THE COLLEGE   BESUSJ55SMM
 COLLEGE OF AGRICULTURE FRESHMEN AT CORNELL UNIVERSITY.=+ OF  GEISHA54MDC
EMEDIAL MATHEMATICS FOR FRESHMEN AT KNOXVILLE COLLEGE.=+IN R  HARVRH56CRM
   OF ERRORS OF COLLEGE FRESHMEN IN ARITHMETIC AND RADICALS.  HABEEA51EDR
DEFICIENCIES OF COLLEGE FRESHMEN IN ARITHMETIC.= DIAGNOSIS    HABEEA50DCF
 ENCOUNTERED BY COLLEGE FRESHMEN IN DECIMALS.=  DIFFICULTIES  GUILWA46DEC
    OF ENTERING COLLEGE FRESHMEN IN ENGINEERING AND THE       KNIGFE57DIP
 ENCOUNTERED BY COLLEGE FRESHMEN IN FRACTIONS.=+DIFFICULTIES  GUILWS45DEC
   ABILITIES OF ALABAMA FRESHMEN MAJORING IN ELEMENTARY       BULLRE53SAA
 THE ABILITY OF COLLEGE FRESHMEN TO READ MATHEMATICS TEXTS    FILAAE57ACF
N PERCENTAGE BY COLLEGE FRESHMEN.=            + ENCOUNTERED I  GUILWS46DEP
NTS RETAINED BY COLLEGE FRESHMEN.=+UNDERSTANDINGS AND JUDGME  SUELBA51MUJ
            ARITHMETIC- FRIEND OR FOE$.=                      BROWFR57AFF
 ARITHMETIC.=           FRONTIERS IN EDUCATIONAL RESEARCH IN  BROWWA47FER
IN ARITHMETIC.=         FRONTIERS IN EDUCATIONAL RESEARCH.=   BROWWA47FER
                        FRONTIERS IN EDUCATIONAL RESEARCH.=   WRIGJW47FER
D SCIENCE.=             FRONTIERS IN TEACHING MATHEMATICS AN  LAUGB 51FTM
D BY THE CAMPERS.= NSF- FSU MATH CAMPERS.= EVALUATIONS OF AN  NELSWH61NMC
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     LETTING ARITHMETIC FUNCTION IN THE PRIMARY GRADES.=      MOTTSM49LAF
OLVING PERFORMANCE AS A FUNCTION OF ATTITUDE DIFFERENCES.=+S  CAREGL58SDP
   NUMBER GROUPING AS A FUNCTION OF COMPLEXITY.=              DAWSDT53NGF
       OFCTIVITIES AS A FUNCTION OF EXPERIENCE, EXPECTATION,  GEBHME48ESF
       MATHEMATICS AS A FUNCTION OF INSTRUCTORS, AND STUDENT  COUNS 52ACM
DUCATIONAL PROGRAM.+THE FUNCTION OF MATHEMATICS IN A STATE E  WRIGJT38FMS
NT HEAD IN A LARGE +THE FUNCTION OF THE MATHEMATICS DEPARTME  DAUGJD54FMD
L UNIT ON THE QUADRATIC FUNCTION.=            AN EXPERIMENTA  PAIGDD60EUQ
                        FUNCTIONAL ARITHMETIC.=               HAROLW53FA
NG THE NEWER ASPECTS OF FUNCTIONAL ARITHMETIC.=       MEASURI  SUELBA47MNA
                WHAT IS FUNCTIONAL ARITHMETIC$.=              WILSGM45WFA
  RELATIONSHIPS BETWEEN FUNCTIONAL COMPETENCE IN MATHEMATICS  PITTRJ52RFC
    DESIGNED TO MEASURE FUNCTIONAL COMPETENCE IN MATHEMATICS  DAVIDJ50CSA
.=                      ~~FUNCTIONAL~~ COMPETENCE IN MATHEMATICS  ~~ALKIGD54FCM~~
-  ITS MEANING AND +    FUNCTIONAL COMPETENCE IN MATHEMATICS  BETZW 48FCM
         PROVISIONS AND FUNCTIONAL COMPETENCE IN MATHEMATICS  RENNJW55RBI
 OF LOUISIANA HIGH +    FUNCTIONAL COMPETENCE IN MATHEMATICS  BROWRC56FCM
 STUDENT ACHIEVEMENT OF FUNCTIONAL COMPETENCE THREE YEARS     RENNJW57SAF
RFORMANCE IN GENERAL +A FUNCTIONAL ITEM ANALYSIS OF GROUP PE  NORTGJ50FIA
     OF THE OUTCOMES OF FUNCTIONAL MATHEMATICS AND FORMAL     BUSHWJ59AOF
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- ☐ Center for Research in the Study of Social Organization of Schools
- ☐ Center for the Advanced Study of Educational Administration
- ☐ Center for the Study of Evaluation of Instructional Programs
- ☐ Center for the Study of Liberal Education for Adults
- ☐ Clearinghouse for Federal Scientific and Technical Information
- ☐ Clearinghouse for Sociological Literature
- ☐ Data Repository of the Survey Research Laboratory, Univ. of Illinois
- ☐ Defense Documentation Center
- ☐ Department of Audiovisual Instruction (NEA)
- ☐ Department of Classroom Teachers (NEA)
- ☐ Department of Elementary School Principals (NEA)
- ☐ Educational Facilities Laboratories (Facilities Information Service)
- ☐ Educational Products Information Exchange (EPIE)
- ☐ Educational Resources Information Center (ERIC)
- ☐ EDUCOM (Interuniversity Communications Council)
- ☐ Foundation Library Center
- ☐ Information Research Center
- ☐ Institute for International Education
- ☐ International Data Library and Reference Service
- ☐ Instructional Objectives Exchange, Center for the Study of Evaluation, Univ. of California (Los Angeles)
- ☐ International Clearnighouse on Science and Mathematics Curricular Developments
- ☐ Learning Research and Development Center
- ☐ Library Technology Program, American Library Association
- ☐ Mental Health Research Institute
- ☐ Midwestern States Educational Information Project
- ☐ National Association of Secondary School Principals (NEA)
- ☐ National Auxiliary Publications Service
- ☐ National Information Center for Educational Media (NICEM)
- ☐ National Institute for Child Health and Development Science Information Center
- ☐ National Institute for Mental Health Clearinghouse
- ☐ National Library of Medicine (MEDLARS)
- ☐ National Referral Center for Science and Technology
- ☐ Negro Bibliographic and Research Center
- ☐ Neurological Information Network
- ☐ Office of Information, U.S. Office of Education
- ☐ Office of Manpower and Employment Statistics, Bureau of Labor Statistics
- ☐ Office of Legislation, U.S. Office of Education
- ☐ Population Reference Bureau
- ☐ Project INTREX
- ☐ Project Public Information
- ☐ Regional Educational Laboratories
- ☐ Research and Development Center in Educational Stimulation
- ☐ Research and Development Center for Teacher Education
- ☐ Research Program in Child Development
- ☐ Research Utilization Branch, Bureau of Research, USOE
- ☐ School Information and Research Service
- ☐ School Research Information Service (SRIS)
- ☐ Science Information Exchange (SIE)
- ☐ TALENT Data Bank

WORK IN PROGRESS

- ☐ Contemporary Authors
- ☐ Pacesetters in Innovation (annual)
- ☐ Programs in Progress Encyclopedia
- ☐ Research in Education (monthly)
- ☐ Research Studies in Education (annual)
- ☐ Science Information Exchange *(see 'Information Agencies' section)*

UNPUBLISHED STUDIES

- ☐ DATRIX
- ☐ Dissertation Abstracts
- ☐ Masters Abstracts
- ☐ TALENT Data Bank *(see 'Information Agencies' section)*

PERIODICALS

- ☐ ALA Bulletin (monthly)
- ☐ American Documentation (quarterly)
- ☐ American Education (monthly; bi-m D to Jy)
- ☐ American Education Research Journal (quarterly)
- ☐ Audiovisual Instruction (monthly S to Jy)
- ☐ Automated Education Handbook
- ☐ Bulletin—National Assn. of Secondary School Principals
- ☐ Child Development (quarterly)
- ☐ Children (bi-m, S to Jy)
- ☐ College and University Reports
- ☐ Comparative Education Review (3x yr)
- ☐ Congressional Quarterly Service
- ☐ Croft Newsletter Services
- ☐ Education
- ☐ Education Recaps (monthly)
- ☐ Educational Administration Quarterly
- ☐ Education Leadership (monthly O to My)
- ☐ Educational Technology (bi-m)
- ☐ Educational Product Report (9x yr)
- ☐ ERIC Document Collections
- ☐ Facts on File
- ☐ Government Contracts Guide
- ☐ Guide to Federal Assistance for Education
- ☐ Harvard Education Review (quarterly)
- ☐ Joint Council on Educational Telecommunications Data Base Service
- ☐ Journal of Applied Psychology (bi-m)
- ☐ Journal of Educational Psychology (bi-m O to Ag)
- ☐ Journal of Educational Research (10x yr)
- ☐ Journal of Research and Development in Education (quarterly)
- ☐ Journal of Teacher Education
- ☐ National Elementary Principal (6x year)
- ☐ Phi Delta Kappan (monthly S to Jn)
- ☐ Psychological Review (bi-m)
- ☐ Report on the Education of the Disadvantaged
- ☐ Review of Educational Research (5x yr)
- ☐ Saturday Review (weekly)
- ☐ School and Society (bi-m)
- ☐ Scientific Information Notes
- ☐ Social Education (monthly)
- ☐ Teachers College Record (monthly O to My)
- ☐ Theory into Practice (5x yr)
- ☐ Today's Education—The Journal of the NEA (monthly)
- ☐ Urban Education (quarterly)

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REPORTS AND MONOGRAPHS

☐ Abstracts of Papers (AERA)
☐ Cooperative Research Monograph Series (USOE)
☐ NEA Research Reports
☐ What Research Says to the Teacher

INDEXING AND ABSTRACTING SERVICES

☐ Abstracts for Social Workers (4x yr)
☐ Abstracts of Computer Literature
☐ Abstracts of Instructional Materials in Vocational and Technical Education (AIM)
☐ Abstracts of Research and Related Materials in Vocational and Technical Education (ARM)
☐ Bibliographic Index
☐ Biography Index
☐ Book Review Digest (10x yr)
☐ British Education Index)
☐ Child Development Abstracts and Bibliography
☐ CIRF Abstracts
☐ College Student Personnel Abstracts
☐ Current Contents—Education (weekly)
☐ Current Index to Journals in Education
☐ Documentation Abstracts
☐ Education Index
☐ Education Administration Abstracts
☐ Guide to Microforms in Print
☐ Index to Periodical Articles By and About Negroes
☐ Library and Information Science Abstracts
☐ Library Literature
☐ Mental Retardation Abstracts
☐ Monthly Catalog of U.S. Government Documents
☐ Monthly Checklist of State Publications
☐ New Serial Titles
☐ New York Times Index
☐ Perceptual Cognitive Development (bi-monthly)
☐ Poverty and Human Resources Abstracts
☐ Psychological Abstracts
☐ Public Affairs Information Service Bulletin
☐ Reader's Guide to Periodical Literature
☐ Research Grants Index
☐ Research in Education
☐ Social Science and Humanities Index
☐ Sociological Abstracts
☐ State Education Journal Index
☐ Subject Index to Children's Magazines
☐ Vertical File Index

ANNUAL REVIEWS & STATE OF THE ART REPORTS

☐ Annual Phi Delta Kappa Symposium on Educational Research
☐ Annual Review of Information Science and Technology
☐ Assn. for Supervision and Curriculum Development Yearbook
☐ Biennial Survey of Education
☐ Bowker Annual
☐ Britannica Book of the Year
☐ Digest of Public General Bills & Selected Resolutions with Index
☐ International Yearbook of Education
☐ National Council for the Social Studies Yearbook
☐ National Society for the Study of Education Yearbook

BIBLIOGRAPHIC REVIEWS

☐ Bibliography on Knowledge Utilization and Dissemination
☐ The Teacher's Library: How to Organize It and What to Include
☐ "Outstanding Education Books of 19—" in Today's Education, the Journal of the NEA (annual, May)

BOOKS

☐ American Book Publishing Record
☐ Books in Print
☐ Cumulative Book Index
☐ Forthcoming Books
☐ Guide to Reference Books
☐ Paperbound Books in Print
☐ Publishers' Trade List Annual
☐ Reference Books in the Mass Media
☐ Scholarly Books in America
☐ Subject Guide to Books in Print
☐ Subject Guide to Forthcoming Books
☐ Textbooks in Print

ENCYCLOPEDIC SUMMARIES

Encyclopedia Britannica
Encyclopedia of Educational Research
☐ Encyclopedia of Library and Information Science

SEARCHER'S SIGNATURE

DATE COMPLETED

APPENDIX I
SAMPLE DATA SHEET

Alexander Graham Bell Association for the Deaf, Inc.

Alexander Graham Bell Association for the Deaf, Inc.
1537 Thirty-Fifth Street, N.W.
Washington, D. C. 20007

The Association is a philanthropic organization established in 1890 by Alexander Graham Bell to promote the teaching of speech and lipreading to the deaf.

Areas of Interest

The promotion of the teaching of speech and lipreading and to encourage the use of residual hearing. To inform, encourage, and help parents of deaf children to work for better educational facilities for all deaf children, to encourage people to become teachers of the deaf, encourage better public understanding of the deaf, and the gathering and circulation of information concerning deafness.

Holdings

The Volta Bureau Library is one of the world's largest collections,on deafness including books, pamphlets, and research reports.

Publications

Pamphlets - a wide range of pamphlets dealing with audiology and hearing aids, inheritance of deafness, the psychological implications of deafness, etc. A free checklist is available. The cost of the pamphlets range from 15¢ to 75¢

Books - the association publishes books and distributes the books of other publishers on various topics relative to deafness. (Prices vary.) A list of these books is available at no cost.

The Volta Review - the official journal of the Association, published monthly, except June, July, and August. (9 issues - $8.00).

Information Services

The Volta Bureau Library is open to all who wish to use it. A small lending library is available by mail to members.

Inter-library loans are available.

User Qualifications

Requests for information and guidance from librarians, hospitals, physicians, nurses, teachers-in-training, Government agencies, sociology students, parents and teachers of deaf children, graduate students in the field of hearing and speech, and researchers in the field are answered.

MOREL Information Center April, 1968

APPENDIX J

Annotated List of Selected Collections of Materials in the MOREL Information Center's Information File

Introduction

The following is a selected and briefly annotated list of subject descriptors which represent the significant collections of materials in the information file of the MOREL Information Center. These collections were developed gradually, as a specific need arose for such materials, in replying to the internal and external requests for information received by the Information Center. Therefore, no claims are made that the list is exhaustive or that the collections are more extensive than is necessary to serve the immediate needs of the Information Center.

The descriptors were taken, for the most part, from the *Thesuraus of ERIC Descriptors* (1967), published by the Educational Resources Information Center, Bureau of Research, U. S. Office of Education.

Administration

Collection of general articles on administration, leadership, principalship, departmental chairman, etc. An internally produced bibliography and several externally acquired bibliographies.

Attitudes, Measurement

A small collection of scholarly articles on attitude measurement, both general and for various specific phases of educational research.

Attitudes, Teacher

Several articles and an externally acquired bibliography, as well as several ERIC abstracts.

Behavioral Objectives

Contains two bibliographies, an internally produced one and one external. Several articles on the principles of behavorial objectives are there, as well as a few ERIC abstracts.

Class Management

This collection includes an internally produced bibliography as well as several articles on the subject.

Community Control of Schools

Included is a copy of the New York City decentralization plan, as well as internally produced bibliography and a considerable collection of ERIC abstracts. Various articles are also included.

Computer-Assisted Instruction

An extensive collection of articles, both practical and scholarly, and a good collection of ERIC abstracts. Some literature describing computer hardware is available, as well as an internally produced bibliography.

Copyright

Various articles, guidelines, etc., on copyright and an outline of plagiarism. A pamphlet on copyright and educators.

Core Curriculum

An internally produced bibliography and one obtained externally, as well as a good collection of articles.

Creative Thinking

An extensive collection of materials includes many scholarly articles and two internally produced bibliographies.

Delinquency, Juvenile

Included are one externally acquired bibliography and a collection of various current articles.

Disadvantaged

An extensive collection of materials, including two internally produced bibliographies and three externally acquired ones. There are also hundreds of ERIC abstracts and a great deal of scholarly articles.

Discovery Processes

Two internally produced bibliographies and an extensive collection of articles on discovery, induction, deduction, etc. are available.

Feedback, Student

Included are a lengthy internally produced bibliography and a good supply of articles, both practical and scholarly.

Financial Support

A collection of several articles and one internally produced bibliography.

Flexible Scheduling

Included are one externally acquired bibliography, an internally produced list of institutional resources, and a small collection of articles.

Higher Education Act of 1965 (89-329)

A bibliography, internally produced, and a small group of articles and announcements constitute the bulk of this collection.

Independent Study

A small collection of articles, both practical and scholarly, as well as an internally produced bibliography are included.

Individual Instruction

One bibliography, externally acquired, and several articles are available.

Information Science

One internally produced bibliography, as well as three externally acquired ones, are available. A good collection of articles and ERIC abstracts are included.

Education Professions Development Act of 1967 (90-35)

Included are a list of the Michigan and Ohio administrators as of summer 1968, several articles descriptive of the law, and a small collection of general articles.

Educational Facilities

One externally acquired bibliography and several articles on facilities, educational parks, etc.

Educational Media

The collection contains an internally produced bibliography, several ERIC abstracts, and several general articles.

Educational Technology

Several general articles and one externally produced bibliography are available.

Elementary and Secondary Education Act of 1965 (89-10)

A lengthy internal bibliography and several articles, both on the act in general and on its various titles.

Environmental Influences

A small collection of scholarly articles, and a group of ERIC abstracts.

Evaluation

Four externally acquired bibliographies and several articles and ERIC abstracts, as well as a document called "guidelines for the evaluation of teaching."

Inservice Teacher Education

An extensive collection of materials that includes the following: an internally produced bibliography, various research reports, and an extensive collection of articles, both popular and scholarly.

Instructional Materials Center

One internally produced bibliography and two externally acquired ones complement a good collection of articles, descriptive sheets, and transparency masters.

Integration Methods

A large collection of articles, mostly scholarly, and one internally produced bibliography.

Interaction Analysis

A small collection of current articles, mostly scholarly, complement a collection of ERIC abstracts and one lengthy produced bibliography.

Listening

A large collection of scholarly articles is supplemented by an internally produced bibliography and a collection of abstracts, mostly ERIC.

Mathematics Education

An extensive collection of materials, including two short internally produced bibliographies, several project resource lists, a small collection of ERIC abstracts, and a large collection of scholarly articles.

Microteaching

One externally acquired bibliography and several ERIC abstracts and print-outs are included, as well as an extensive collection of practical and scholarly articles.

Middle Schools

This large collection includes: two internally produced bibliographies, one large externally acquired bibliography, agency resource lists, ERIC and other abstracts, a packet of materials from the University of Toledo, and a large collection of articles (many scholarly).

Motivation

A very extensive collection of scholarly articles is complemented by two internally produced bibliographies, and externally acquired one, the reply to a DATRIX search, and several ERIC abstracts.

Negotiations, Contract

A small collection includes several articles and one internally produced bibliography.

Negro Education

A good collection of scholarly articles and several ERIC abstracts are supplemented by a lengthy externally acquired bibliography.

Nongraded System

This collection included one externally acquired bibliography, several internally produced agency resource lists, an NEA research memo with bibliography, and a good collection of articles, ERIC abstracts, pamphlets, etc.

Personnel Selection

Four externally acquired bibliographies on various aspects of personnel selection are available, as well as, a small collection of articles.

PERT (Program Evaluation Review Technique)

A good collection of scholarly articles as well as practical ones, pamphlets, etc.

Physical Education

One internally produced bibliography and two externally acquired ones, a good collection of ERIC abstracts, and various articles, papers and announcements are available.

Problem Solving

A medium sized collection of articles on several aspects of problem solving.

Programming Planning Budgeting System (PPBS)

In addition to a small collection of articles, there are three externally acquired bibliographies, a set of booklets from George Washington University, and some ERIC abstracts.

Racial Attitudes

An extensive collection, including two internally produced bibliographies, one listing articles and one listing attitude measurement instruments. There is also one externally acquired bibliography.

Reading

This collection consists of three externally acquired bibliographies, along with several ERIC abstracts, book reviews, etc.

Regional Educational Laboratories

In addition to an extensive list of general articles about the theory development and operation of the laboratories, there are critical reviews and papers, laboratory guidelines, news releases, and various laboratory directories and program critiques.

School Study Councils

This collection contains general articles, descriptive literature, various SSC proposals, evaluative materials, and a list of SSC's.

School Year, Length

Extensive collection of articles, papers, reprints, etc., most of them from the School Calendar Study Committee and local school systems. These are also, two externally acquired bibliographies and one internally prepared, and NEA research memo with bibliography, and some ERIC materials.

Self Concept

Four externally acquired bibliographies and one internally produced one constitute the bulk of this collection which also includes some ERIC abstracts.

Sex Education

Included are two externally acquired bibliographies and a small collection of articles and booklets.

Simulation

Three externally acquired bibliographies and one internally produced one, in addition to the results of a DATRIX search, a pile of ERIC abstracts, and a good collection of articles constitute this collection.

Small Group Instruction

A good collection of articles is complemented by an internally produced bibliography.

Student Response Systems

Quite a few articles, both practical and scholarly, are the basis of a collection that includes booklets, lists of salesmen, and literature on various types of hardware.

Study Skills

An internally prepared bibliography and a list of study materials supplement an internally prepared bibliography.

Supervision

A large collection of scholarly articles on supervision and the supervisor are available, in addition to an externally acquired bibliography.

Systems Approach

A large collection of scholarly articles and papers are available, in addition to one internally produced and three externally acquired bibliographies, a structured DATRIX search, and several resource lists.

Teacher Aides

Several articles and descriptive sheets on teacher aides and para-professionals are supplemented by two bibliographies, one external and one internal.

Team Teaching

A list of resources and an externally acquired bibliography are the basis of a collection which also includes a large number of articles, a packet from Lamphere (Michigan) Public Schools, and some ERIC materials.

Work Attitudes

A fairly large collection of scholarly articles on work attitudes, work-study aspirations, central life interests, etc.

In addition to the above descriptors, which represent the significant areas of our searches to date, we have also had more limited needs in the areas listed below. Again, the terms are selected from the *Thesaurus of ERIC Descriptors*. Presently, these minor collections house fragmentary references located thus far and are not considered to be major resources.

Attitudes, student
Behavior
Behavior, non-verbal
Change Agents
Civil Rights Act of 1964 (88-352)
Class size
College, junior
Communication
Compensatory Education
Congress, U.S.
Counseling
Dialect
Discipline
Dropouts
Economic Opportunity Act of 1964 (88-452)
Educational television
English education
ERIC
Feedback, teacher peer group
Foreign Language Education

Foundations
Gradings
History and Philosophy of Education
Humanities
Initial Teaching Alphabet
Interviews
Legislation, educational
Model cities program
MOREL (general)
National Defense Education Act of 1958 (85-864)
National Foundation on the Arts and Humanities Act of 1965 (89-209)
Organic curriculum
Perception
Privacy, invasion of
Questioning and discussion
Reinforcement
Research and Development Centers
Rewards
Science education
Self evaluation, teacher
Sensitivity training
Social characteristics
Special education
Student participation
Student teaching
Transportation
Urban Education
Vocational Education Act of 1963 (88-210)
Vocational Schools
Writing